

85

NO. 4

# textile bulletin

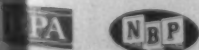
APRIL • 1959

Can You  
Justify Your  
Inventory?  
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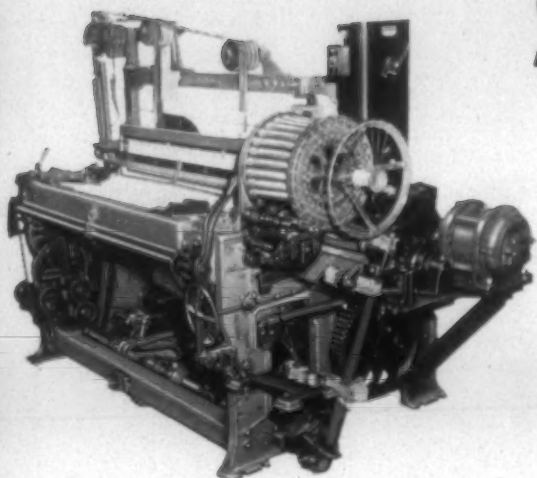
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100% American Engineered,  
Manufactured and Serviced

**HARTFORD**  
Can Do It For You, too  
**HARTFORD**  
is equipped to handle any  
spindle problem with "Job  
Adapted" Spindles and Parts  
WHAT IS YOUR PROBLEM ?

**HARTFORD**  
MACHINE SCREW COMPANY  
Division of Standard Screw Company  
Box 1776  
Greenville, S. C.



# Stehedco

presents

## The REINFORCED DURAWELD PICKER STICK

with this Unexcelled Combination . . . . .  
Strength and Whip, plus Resistance to Warping

Here is another Stehedco exclusive . . . a picker stick that gives you advantages never before available.

- ★ DURAWELD Picker Sticks are made of multiple laminated veneers of high grade hickory reinforced with veneers of vulcanized fiber, permanently bonded with phenolic adhesive into a uniform panel.
- ★ This construction gives DURAWELD Picker Sticks far greater strength while retaining the desired "whip" for high-speed looms.
- ★ These laminated, reinforced picker sticks are much less susceptible to warping than ordinary picker sticks.
- ★ Stehedco DURAWELD Picker Sticks will pay for themselves many, many times with superior performance and longer life.
- ★ Designed for high-speed Draper looms, these picker sticks also give superior performance on slower single box and light multiple box looms.
- ★ The exposed, or nearly exposed, fiber at the picker end of the stick provides greater wear resistance to the lay end slot.

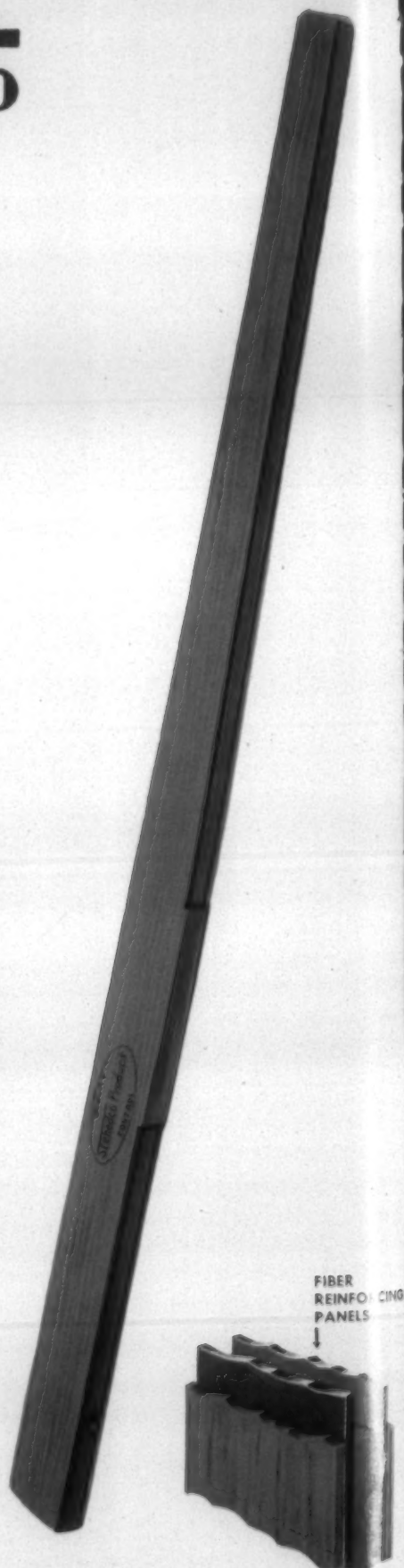
Invest in Reinforced DURAWELD Picker Sticks now and start counting your savings.

**Stehedco**  
STEEL HEDDLE MFG. CO.  
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SOUTHERN SHUTTLE DIV.  
GREENVILLE, S.C.  
**Southern**

P. 5725



Other Plants and Offices: Granby, Quebec, Canada—Lawrence, Mass.—Greensboro, N. C.—Atlanta, Ga.—Textile Supply Co., Dallas, Texas—Albert R. Breen, Chicago, Ill.





"We had a problem . . .  
SONOCO solved it!"



## THE NEED: A cone for use in accelerated yarn conditioning

Recent years have seen the introduction of equipment that reduces the yarn conditioning cycle from 10 or 12 hours to only about 2 hours. This is indeed significant progress. However, this process presented two major problems—a cone was required with a surface to which the yarn would not stick and strong enough to withstand the additional moisture absorption.

Sonoco research solved these problems quickly. The answer was found in the "standard" gray Sonoco Yarn-

saver Cone with full Unitex surface. Use of this type cone has eliminated production difficulties with accelerated cycle yarn conditioning equipment.

Only Sonoco, with its modern laboratory, engineering and production facilities, could have answered this industry need. It is typical of countless cases where Sonoco leadership, based on 60 years' experience, has benefited the industry. Let Sonoco help you!



**SONOCO**  
*Products for Textiles*  
**SONOCO PRODUCTS COMPANY**



# ROBERTS ARROW *LONG FIBER* SPINNING

- Any Fiber or Blend  
Synthetic or Natural
- Any Staple Length  
From 1½ to 8 Inches
- No Roll Setting Changes  
Needed at Any Time
- All Ball Bearing Construction  
For Smooth Operation

WITH ROBERTS  
*PermaSet* DRAFTING



## WM-2 ARROW *ShortFlo*

Rugged Chassis with Ball Bearings Throughout  
Unitized Sectional Construction

Four-Roll Double Apron Drafting System

For Long-Staple Spinning, 100% or Blended

Drafts: 20 to 25 for Wool and Blends  
25 to 50 for Synthetics and Blends

Front Roll Pressures from 90 to 120 pounds

UnitVac Power Suction Cleaning with  
Individual Removable Flutes

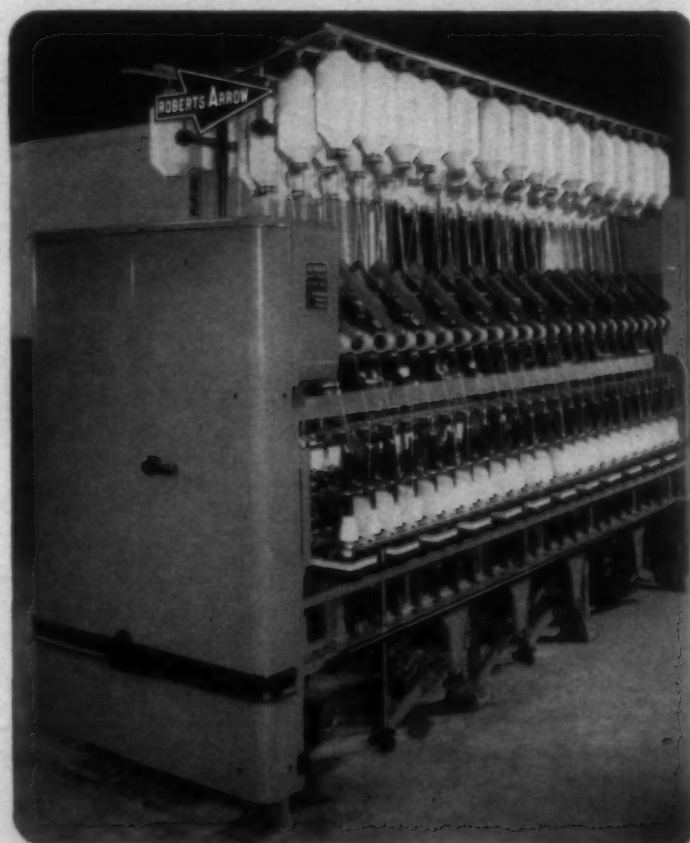
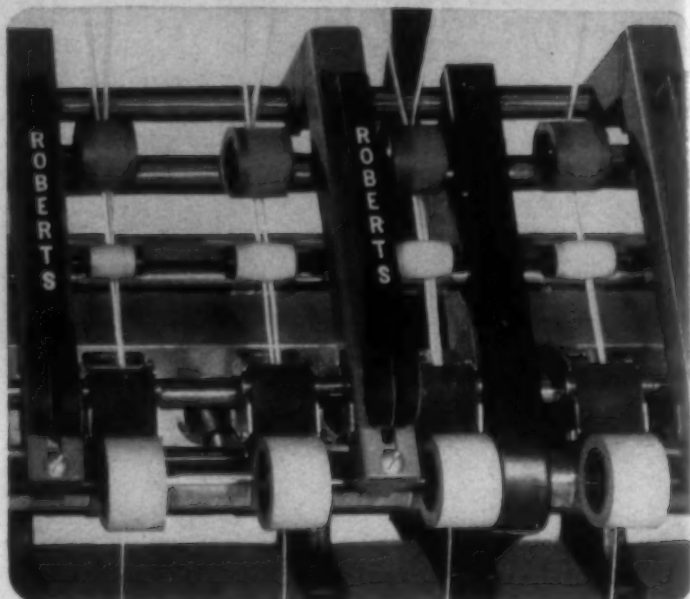
Roberts AeroCreel Handles Large-Package Roving

Simplified Reverse Twist Arrangement

Completely Adjustable Draft, Lay, and  
Twist Constants

One Master Set of Gears for All Changes

Actual mill tests have proved that the  
ARROW WM-2 Worsted Frame gives  
higher quality yarns with fewer ends down  
and more even running at higher drafts  
and higher front-roll and spindle speeds.



**ROBERTS COMPANY**

SANFORD, NORTH CAROLINA

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

# ROBERTS *PosiWate* SUSPENSION SYSTEM

Elegantly simple, the Roberts PosiWate Top Roll Suspension System is completely free of hooks, unpredictable short springs and other gadgets. PosiWate recovers the best features of positive weighting and weight distribution used and proven in several million spindles insuring uniform performance from spindle to spindle.

A FEATURE OF

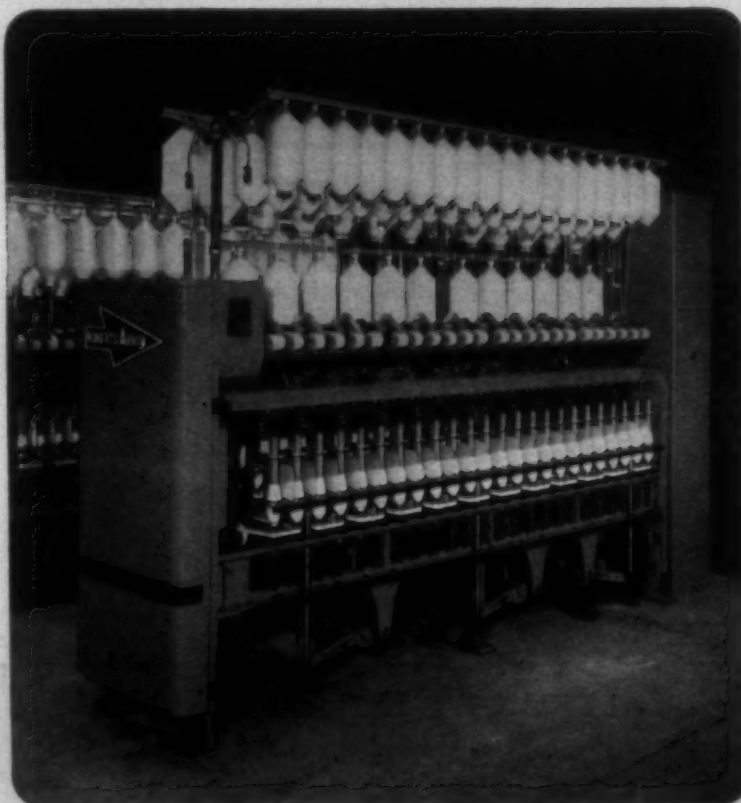
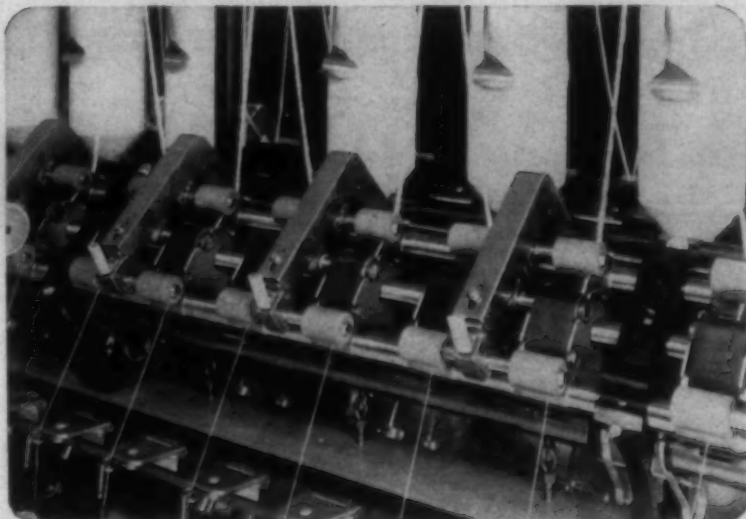


ALSO AVAILABLE AS  
CHANGE-OVER MODERNIZATION  
ON ANY MAKE OF FRAME

Very Advanced

**ARROW SPINNING** features:

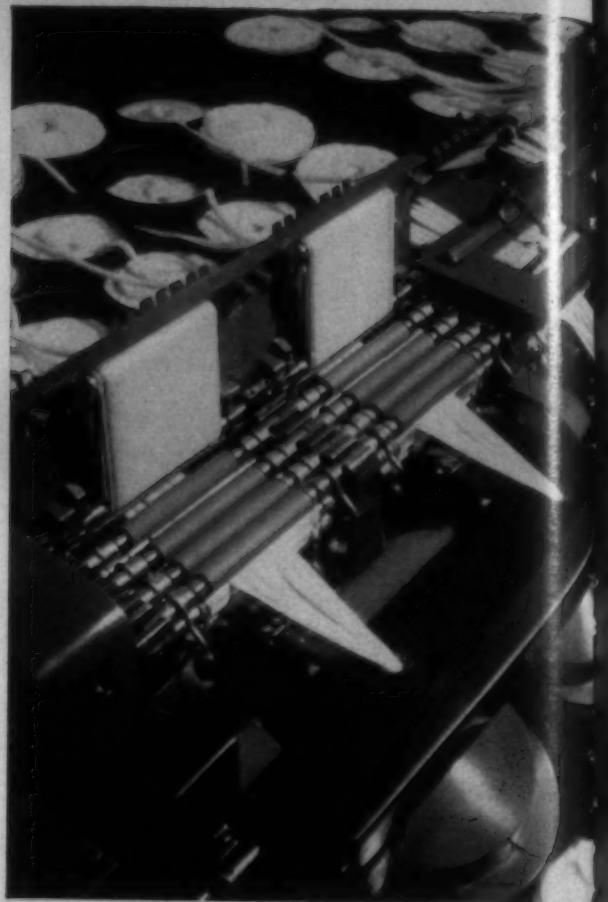
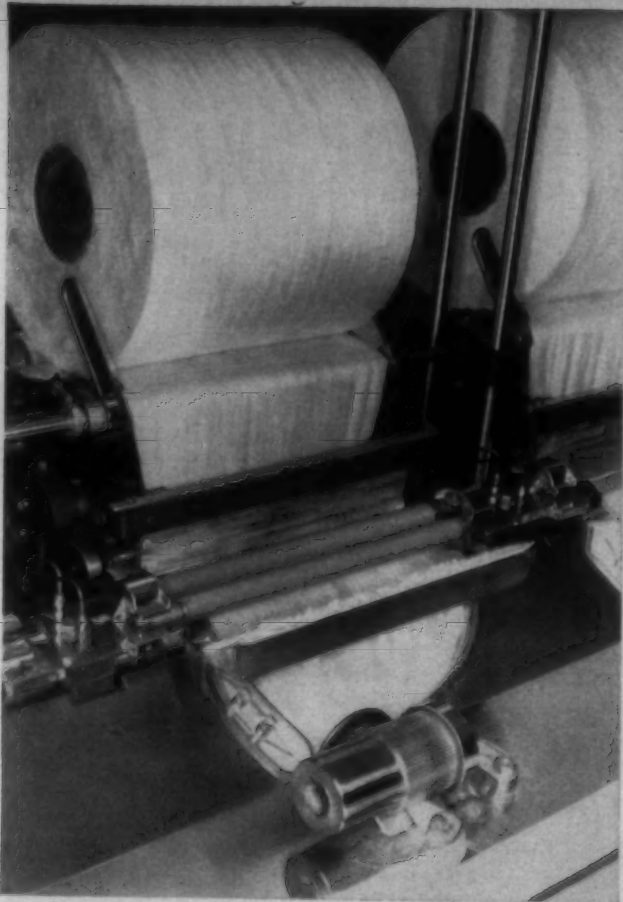
- PosiWate Top Roll Suspension
- UnaRing Balloon Control
- EvenGrip Fluted Bottom Rolls
- Roberts Supreme Ball Bearing Spindles
- Double-Apron High Draft System
- UnitVac Power-Suction Cleaning
- Roberts All-Ball-Bearing Head
- Unitized Sectional Frame
- AeroCreel with Latch-Type Bobbin Holders
- Flexibility For Cotton And Synthetics



**ROBERTS COMPANY**

SANFORD, NORTH CAROLINA





## How the right roll covers will help you produce better work from comber to spinning frame

Although your card room and spinning room frames do different jobs, the quality of their work largely depends on the performance of their drafting roll covers . . . and this performance, in turn, requires the careful selection of the right material for each job.

The Accotex line of roll covers simplifies this selection problem, because it includes materials compounded to meet the special requirements of each frame in the yarn preparation and spinning processes.

On combers, for example, Accotex NO-763 Covers are used on detaching rolls. NO-763 is an anti-static material that maintains good control of the web and reduces lap-ups to a minimum. In the comber draw box, rolls covered with Accotex J-490 help to draft uniform sliver.


For drawing frames, there is a choice of Accotex Covers that will give smooth operation. Where flat clearers are used, Accotex NC-762—another anti-static material—will minimize eyebrowing. For drawing frames with revolving clearers, either J-490 or NO-764 will help to eliminate lapping.

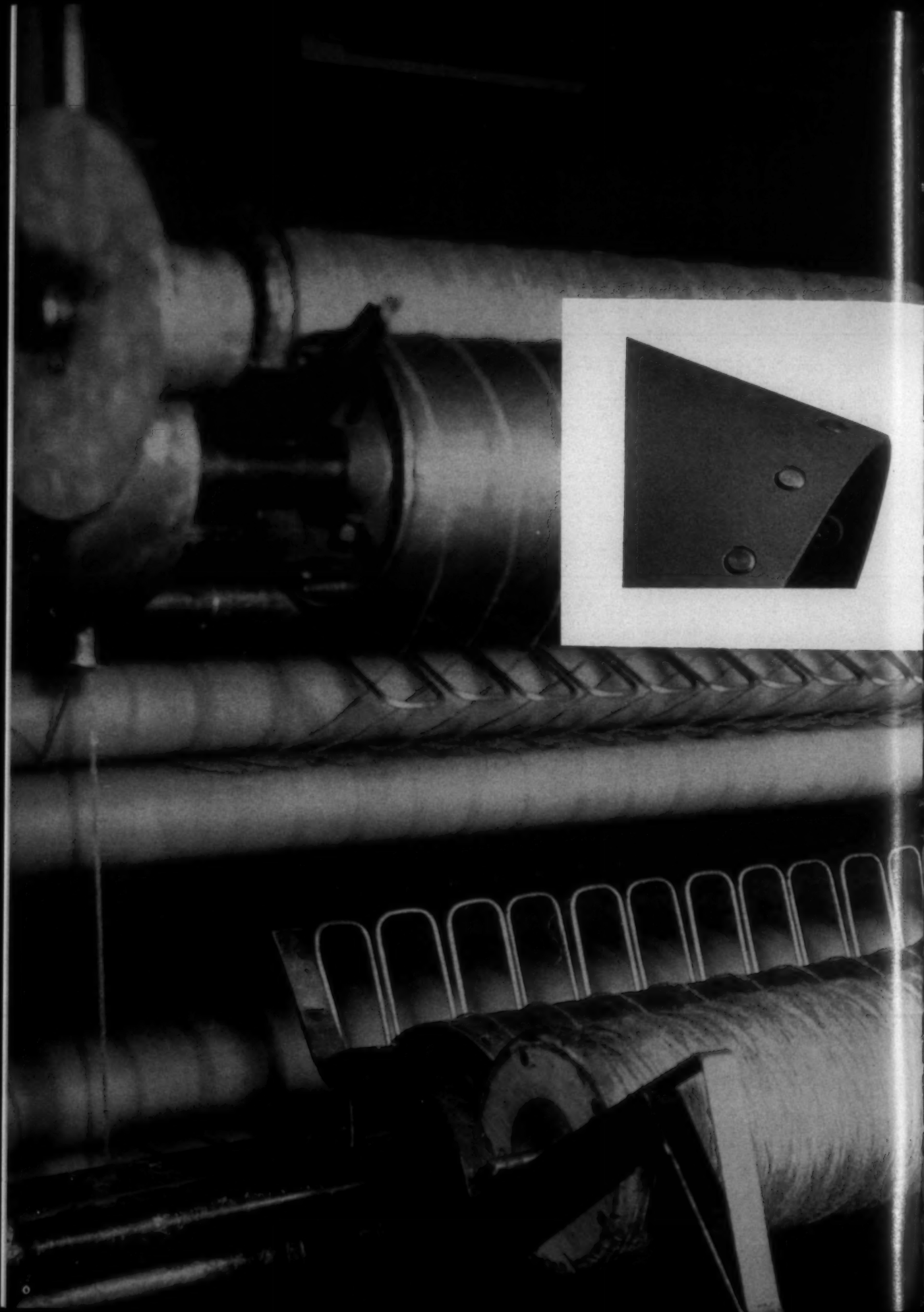
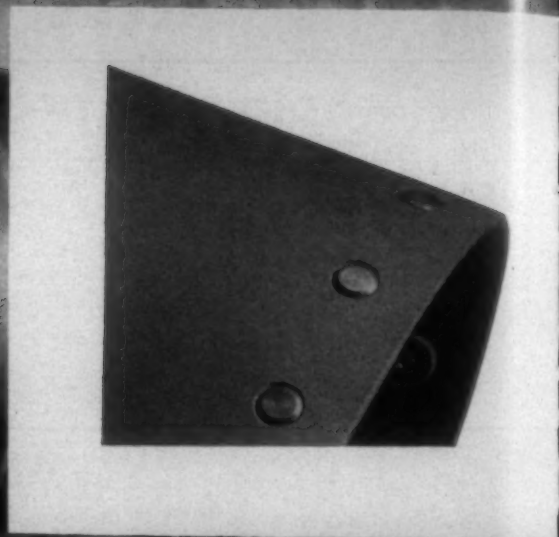
On roving frames equipped with revolving clearers, either Accotex NO-764 or J-490 will control lapping. These two covers tend to

repel loose ends, and fibers will not build up on their smooth surface. Where flat clearers are used, NC-762 Covers are recommended. These anti-static covers help to prevent the formation of eyebrows and keep waste formation to a minimum.

In the spinning room, there's an Accotex Cot available that will give you high production of quality yarn no matter what type frame you have, and no matter what kind of fiber you're spinning. Where front roll laps are a problem, they can be controlled by using either J-490 or NO-764. Excessive eyebrowing can be virtually eliminated with NC-762, a new anti-static material. On some frames, an improved break-factor can be obtained by using one of the softer Accotex Cots such as NO-728 or NO-768.

Selecting the right cover for each step in yarn production can make a big difference in the quality—and the quantity—of your production. Your Armstrong representative will gladly help you make the right roll cover selections in your mill. Next time he calls, ask him to make a survey of *all* your roll covering requirements. Armstrong Cork Company, Industrial Division, 6604 Davis Ave., Lancaster, Pennsylvania.

 **Armstrong ACCOTEX ROLL COVERINGS**

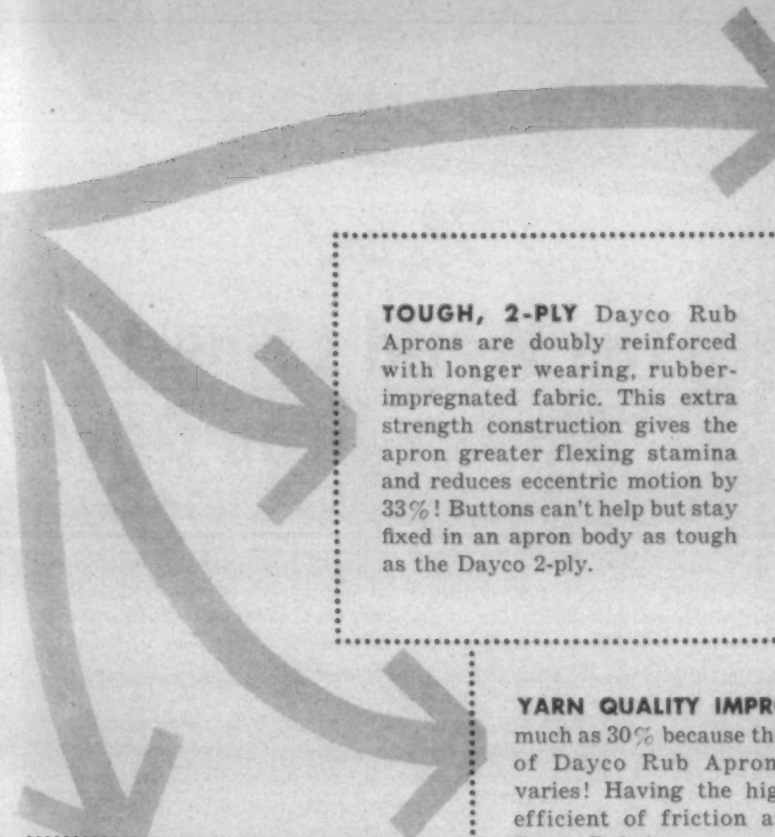




Along with a 30% increase in yarn uniformity

# Dayco Rub Aprons

Give you more yarn per card



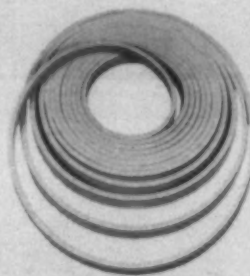
**TOUGH, 2-PLY** Dayco Rub Aprons are doubly reinforced with longer wearing, rubber-impregnated fabric. This extra strength construction gives the apron greater flexing stamina and reduces eccentric motion by 33%! Buttons can't help but stay fixed in an apron body as tough as the Dayco 2-ply.

**NO NEED TO ADJUST** trouble-free Dayco Rub Aprons. Perfectly concentric, they hug the rolls tightly for accurate tracking and assure positive, non-slip drive at all times. Longer wearing, they have an extra-deep synthetic surface with built-in resistance to the abrasion that results from constant rubbing.

**YARN QUALITY IMPROVES** as much as 30% because the texture of Dayco Rub Aprons never varies! Having the highest coefficient of friction available, Dayco Rub Aprons never slick or glaze, are immune to changes in temperature and humidity, and are unaffected by emulsion oils which cause surface growth in other aprons.

## DOWNTIME'S UNNECESSARY

when you use Dayco Rub Aprons. Now you can strip your cards faster . . . because Dayco Rub Aprons require no oiling . . . and save up to \$25 an hour. Trouble-free Dayco Rub Aprons practically do away with even routine maintenance . . . which means they virtually pay for themselves in added production.



## DAYCO ENDLESS CONDENSER TAPE

Features offering additional savings . . . greater card efficiency:

- No stretch—little need for take-ups
- Less tendency to twist or turn over
- Easy to clean—require less attention
- Unaffected by oil or static
- Will not crack, economical efficient

*Get the facts. Ask about actual cost-savings with Dayco Rub Aprons the next time the Dayco representative calls. Or write the Dayton Rubber Co., Textile Div., 401 S. C. National Bank Building, Greenville, S. C.*

## Dayton Rubber



**Better  
Simpler  
Less Expensive**

## *New!* **The World's Finest Slasher Head Drive**

Cocker's New Slasher Gear Head Drive is a tremendous improvement over all existing drives. It eliminates troublesome belts, chains, and sprockets. These are replaced with a telescoping torque-tube drive\* with two universal joints which transmits positive power to a gear reducer which drives the beam driving head direct. This is the same type drive which is used in the finest automobiles and on expensive machine tools.

**LOWER INITIAL COST—LESS MAINTENANCE** This new design permits the use of a basic 5 HP-DC motor of simplest design and eliminates the present expensive gear boxes, thus reducing initial cost materially. Simplified driving mechanism operates smoothly with very little maintenance. Only five places to lubricate. Working parts are easily accessible. The same drive will be used on all type Cocker Slashers, thus permitting "off-the-shelf" replacement parts service.

**PROJECTING SPINDLES ELIMINATED** Can safely run beams varying as much as 50-inches in width without protruding spindles and with no sprockets or chains to slide in and out.

**VIRTUALLY ELIMINATES NOISE**

**NEW CLEAN MODERN DESIGN**

All other features of the superb Cocker head end remain the same as before—rugged construction, complete and accurate push button controls, full instrumentation, new, fast and simple beam doffing. Also available with Cocker's patented Beam Drive which provides constant adjustable tension regardless of speed or load. Speeds up to 150 ypm and 20% to 25% more yarn per loom beam with production rates of over 1500 lbs. per hour.

Write for full information today.

\*Patent Applied For



In Canada and New England: Contact W. S. Clark, Montreal Canada, Oxford 7-2242  
Plant and Offices: Ranlo, N. C. Mailing Address: Gastonia, N. C.

**Machine and Foundry Co., Gastonia, N. C.**

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE  
WARP PREPARATORY EQUIPMENT

For immediate action on parts or service—nights, weekends or holidays—call EDison 5-5061, Charlotte, N. C.

**NOW! A BRIGHTER "SEVRON"\* BLUE FOR  
WETFAST, EASY-TO-APPLY SHADES ON "ORLON"\*  
AND OTHER ACRYLIC FIBERS**

"Sevron" Blue NF, a new DuPont cationic dye, now enables the dyer to produce a wide range of fast shades on "Orlon", other acrylic fibers and blends of these fibers. In addition to bright blue self-shades, this new dye also lends itself to the production of tans, grays, charcoals and navy shades.

When applied to "Orlon", "Sevron" Blue NF shows very good wetfastness as well as good lightfastness. At the same time, staining of wool in acrylic-wool blends is only slight. It exhibits good solubility and stability, excellent build-up properties, level dyeing characteristics.

For ideas on how you can profitably use "Sevron" Blue NF, get in touch with the nearest DuPont Office listed on the reverse side.

**FASTNESS PROPERTIES**

A.A.T.C.C. Test	Rating or Shade Change
Washing No. 3	Negligible
Washing No. 3A	Negligible to slight
Perspiration (acid)	Negligible
Perspiration (alkaline)	Negligible to slight
Fade-Ometer	
1% dyeing on "Orlon"	40 hours
4% dyeing on "Orlon"	60 hours

Approximate color of 2.0% dyeing  
on "Orlon" Type 42 fabric.

# news from DuPont

**NEW "LATYL"\* DYE FOR SYNTHETICS FEATURES  
GOOD ALL-AROUND FASTNESS**

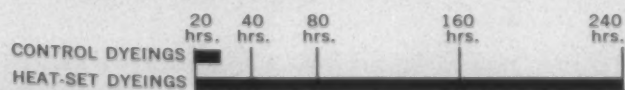
A wide range of shades can now be applied to "Dacron"\* polyester fiber and other hydrophobic fibers through the use of "Latyl" Cerise N. This new disperse dye gives attractive pinks on "Dacron" or nylon, light to medium scarlet shades on acetate and pink shades on "Orlon" acrylic fiber. It can also be used for grays, tans and browns. It is particularly good for dyeing blends containing "Dacron" since it shows negligible to slight staining of natural fibers.

Except for its noticeably bluer shade, "Latyl" Cerise N is much like "Latyl" Cerise B in dyeing and fastness properties. For example, 2.0% dyeings on spun "Dacron" show negligible shade change when exposed to standard A. A. T. C. C. washing and perspiration tests. Lightfastness is excellent when fabrics are free from carrier. "Latyl" Cerise N also provides level dyeings and exhibits good build-up.

DuPont dyeing specialists can give you more information and application suggestions. You can reach them at the addresses shown on the reverse side.

**LIGHTFASTNESS**

(Fade-Ometer Exposure Causing Shade Change Similar to Step 4 of International Geometric Gray Scale)



\*REG. U. S. PAT. OFF.

(continued on other side)

Approximate shade of 1.0% dyeing  
applied to spun "Dacron".



**ANNOUNCING "SEVRON"\* ORANGE CL:  
COMBINES 160-HOUR LIGHTFASTNESS AND  
GOOD WET PROCESSING FASTNESS**

With this new "Sevron" dye, it is now possible to apply bright orange shades of 160-hour lightfastness to "Orlon"\* and other acrylic fibers. Good dyeing properties also make "Sevron" Orange CL useful as a compounding element for tans, browns, grays and blacks. In particular, its good fastness to carbonizing and wet processing is expected to simplify the dyeing of "Orlon" in blends with wool.

The desirable processing characteristics of "Sevron" Orange CL include good solubility, good build-up and stability over a relatively wide pH range.



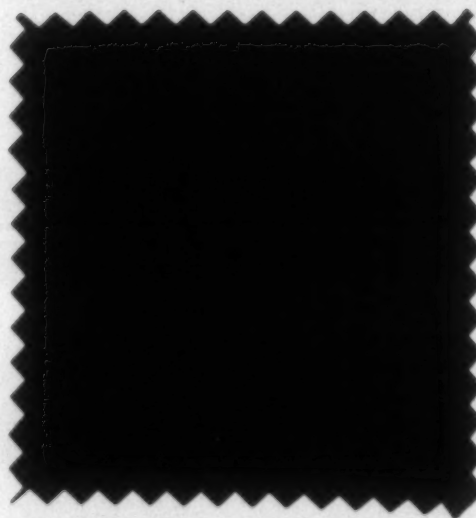
Approximation of 2.0% dyeing  
applied to "Orlon" type 42.

# news from Du Pont

**NEW "CAPRACYL"\* BROWN HRN REPLACES  
MORE EXPENSIVE DYE . . . GIVES BRIGHTER,  
REDDER SHADES**

As the replacement for "Capracyl" Brown HR, this new homogeneous dye now permits brighter and redder browns to be produced with greater economy. Shades ranging from pastel to heavy can be applied to either nylon or wool. "Capracyl" Brown HRN is especially suited for the continuous dyeing of wool rawstock.

"Capracyl" Brown HRN combines very good wet-fastness with satisfactory lightfastness. It dyes levelly, exhibits good affinity and shows little staining of the fibers most used in blends with nylon or wool. For specific data, phone or write one of the Du Pont District Offices listed below.



1.0% dyeing of "Capracyl" Brown HRN  
applied to spun nylon.

**"AVITEX"\* K DURABLE SOFTENER BUILDS  
IN A SOFT HAND THAT REPEATED WASHINGS  
WON'T REMOVE**

The "soft touch" sells fabrics today, and "Avitex" K is one way to capitalize on the trend. This Du Pont softener not only imparts a softer, fuller hand to cottons, rayons and blends of synthetic fibers and cotton. It also keeps this soft hand intact through repeated launderings and dry cleanings, when properly applied. Moreover, "Avitex" K helps to improve crease resistance, abrasion resistance, sewability and tear strength.

Because it is nonionic, "Avitex" K is compatible with thermosetting and thermoreacting resins. It disperses readily in hot water, has no formaldehyde odor. If you're already using wash 'n' wear finishes, all you need do is add 2% to 6% to the resin padding bath. Our nearest District Office will give specific recommendations.



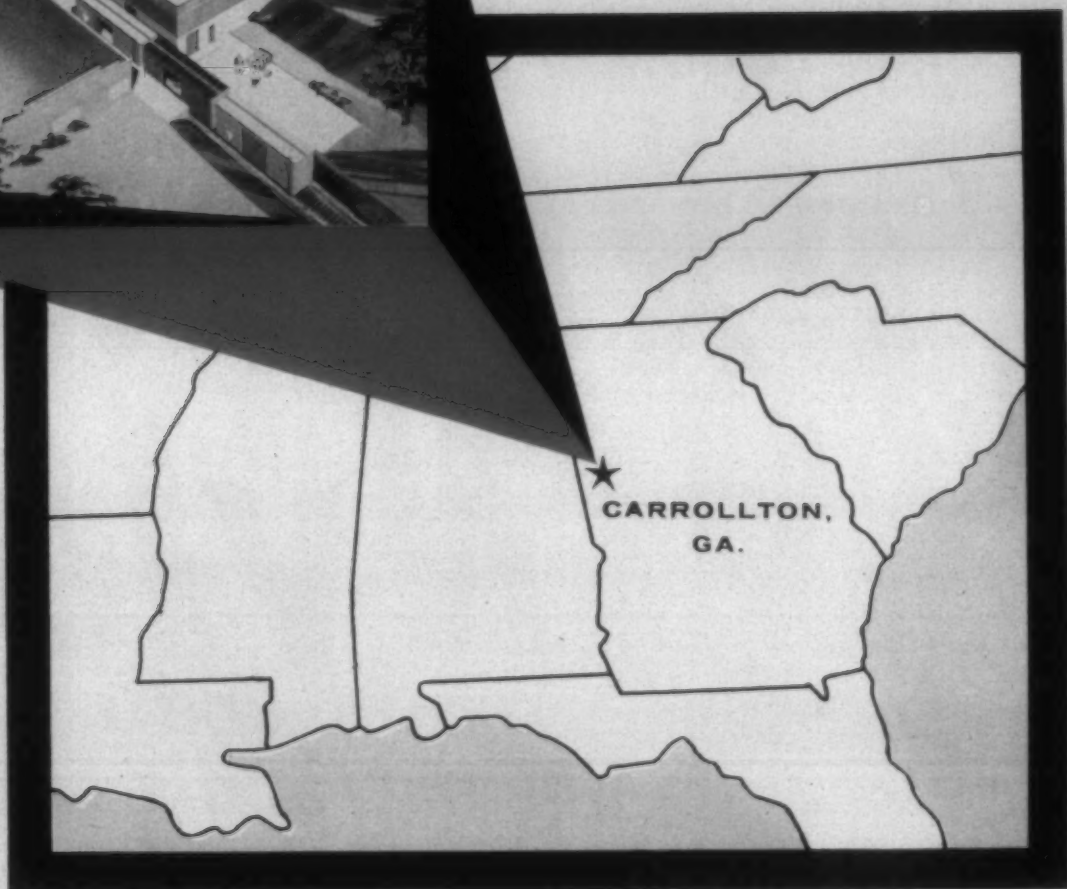
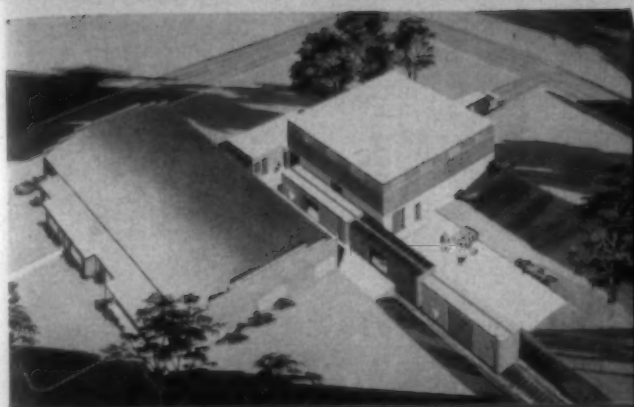
**DYES AND CHEMICALS**

**Better Things for Better Living  
... through Chemistry**

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E. I. du Pont de Nemours & Co. (Inc.), Organic  
Chemicals Department, Dyes and Chemicals Division,  
Wilmington 98, Del.

\*REG. U. S. PAT. OFF.



## Here's a New Manufacturing Plant to Serve the Textile Industry!

Houghton—for years a leading supplier of textile processing and finishing products—has opened a new plant, warehouse and sales office in Carrollton, Georgia—right in the heart of the growing industrial South.

These new manufacturing facilities will mean that textile mills can get speedy delivery of Houghton size softeners, detergents, wetting agents and fiber lubricants, as well as on-the-spot help in solving textile processing problems.

Take full advantage of the services this new Southern plant offers—as well as those offered by Houghton's five other plants located in Philadelphia, Chicago, Detroit, San Francisco and Toronto, Canada. The Houghton Man in your area is technically trained to give you the help you need. Just ask him. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

**Houghto-Size • Cerfak Detergents • Surfax Wetting Agents  
Softex Softeners • Sulfol Fiber Lubes**

... products of

**E. F. HOUGHTON & CO.**

Ready to give  
you on-the-job service



Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga.

Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

**Revolutionary  
new fashions are being  
touched off  
by**

# **Textured Nylon**

**and  
Chemstrand's booming  
them to  
consumers everywhere**



From the start, The Chemstrand Corporation saw in textured nylon a great new opportunity for the textile industry.

First we promoted the extraordinary appeal of textured nylon in sweaters, swimwear, foundation garments. Now Chemstrand goes all out in support of many other end uses: skiwear, sportswear, knit dresses, leotards, men's half hose, sport shirts, carpets, upholstery.

We're dramatizing these brilliant new applications of textured nylon in a raft of FULL-COLOR, FULL-PAGE spreads

and page ads in THE NEW YORKER, THE NEW YORK TIMES MAGAZINE, VOGUE, HOUSE BEAUTIFUL, HOUSE & GARDEN.

Consumers by the millions will be sold on the rich appearance and touch, the superior performance this new nylon development makes possible in knit and woven fabrics. Whatever you make... see how much better you can make it in textured nylon.

**CHEMSTRAND® NYLON**

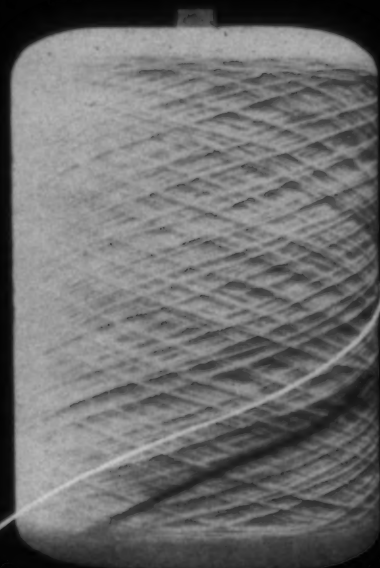


THE CHEMSTRAND CORPORATION

GENERAL SALES OFFICES: 350 FIFTH AVE., NEW YORK 1, N. Y. • DISTRICT SALES OFFICES: 350 Fifth Avenue, New York 1; 3½ Overwood Road, Akron, Ohio; 197 First Avenue, Needham Heights, Mass.; 129 West Trade Street, Charlotte, N. C.; California Office: 707 South Hill Street, Los Angeles 14 • CANADIAN AGENCY: Fawcett & Co., 34 High Park Boulevard, Toronto, Canada • PLANTS: CHEMSTRAND® NYLON—Pensacola, Fla.; ACRILAN® ACRYLIC FIBER—Decatur, Ala.



# GDC DYES THAT SIMPLIFY COLORING OF SYNTHETICS

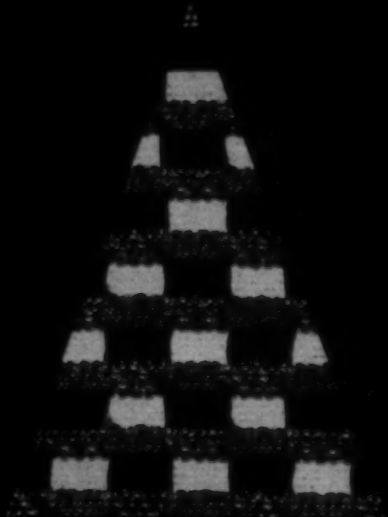


## Genacryl Cationic dyes for acrylics.

Genacryl dyes are modified basic dyes characterized by exceptional brightness, good to very good light fastness in full shades and very good washing fastness. They produce especially bright and fast colors on Orlon® and Acrilan† at low cost.

## Disperse dyes for all synthetic fibers.

Celliton dyes are the most versatile and practical for fast shades on acetate, triacetate, and polyester fibers. On acrylic fibers, they produce light shades of excellent wash and light fastness. On nylon, they produce clear, level, fast shades, free of barré.



*From Research to Reality*

## Genacron Disperse dyes for polyester fibers.

Genacron dyes are a specially standardized range of dispersed dyes for application on polyester fibers. They produce heavy shades which are fast to light, sublimation and washing. They have minimum staining effect on wool or cotton and are non-tarring.

## Supralan Premetalized acid dyes for acrylics and blends with wool.

Supralan dyes build up well into full, level, fast shades at low cost on nylon and acrylics and blends with wool. Neutral dyeing, Supralan dyes minimize fiber damage and shorten processing time.

**GDC continues to keep pace with the expanding synthetic fiber industry by developing modern dyes and application techniques. Call on GDC for assistance with any dyeing problems.**

**gdc**



A SALES DIVISION OF  
435 HUDSON STREET • NEW YORK 14, NEW YORK  
CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK • PHILADELPHIA • PORTLAND, ORE.  
PROVIDENCE • SAN FRANCISCO • IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

\* DACRON AND ORLON ARE REGISTERED TRADEMARKS OF E. I. DUPONT DE NEMOURS & CO. (INC.) FOR THEIR POLYESTER AND ACRYLIC FIBERS. † ACRILAN IS A REGISTERED TRADEMARK OF CHEMSTRAND CORPORATION.

ULTIMATE QUALITY AT MINIMUM COST . . .

## THE VERTICAL "Y"

24 INCHES WIDE  
SPINNING  
FRAME

The **ONLY**  
Straight-line  
Spinning

No Frills



No Furbelows



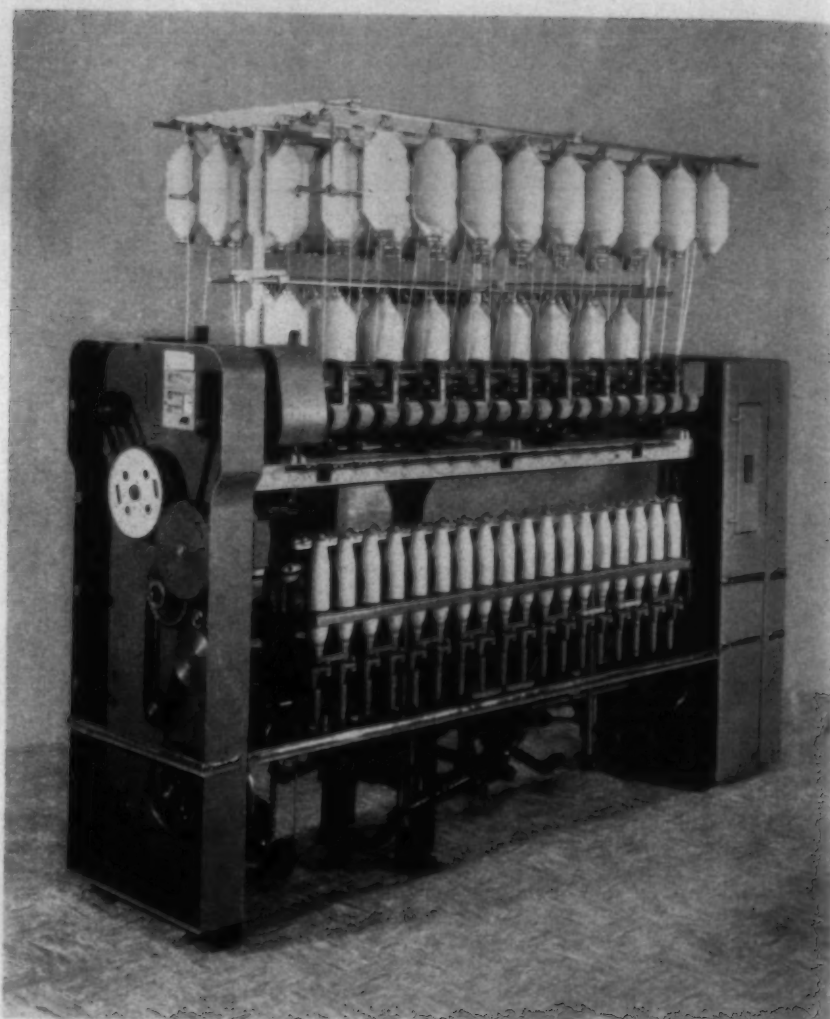
No Maintenance



No Oil



No Lint



**NEW SIMPLICITY**

**POSITIVE CONTROL**

**RUGGED DESIGN**

All anti-friction. Single control rings, right or left hand twist. Simplest gear drive on any spinning frame — only 12 gears and 3 chains. Positive — Simple — one adjustment traverse motion. Umbrella creels, single or double, for 10", 12", 14" bobbins.

### TOMORROW'S FRAME TODAY

*We invite your inquiry for further information and literature.*

# F. A. YOUNG

Telephone UNiversity 5-8556

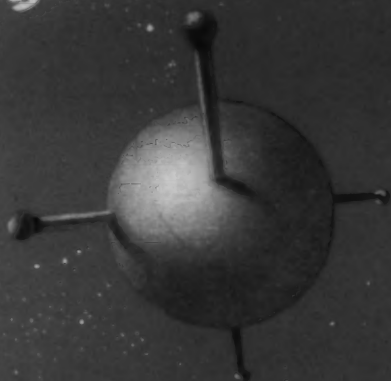


# MACHINE CO.

GASTONIA, NORTH CAROLINA

**FLUTED ROLLS FOR SPINNING • FLYER FRAMES • COMBERS • DRAWING & LAP MACHINES • NYAF**

# NEW SOFTENERS FOR THE NEW AGE IN TEXTILES



To meet the higher  
standards being  
demanded by  
the consumer...try

## SOFTYNE SPECIAL

A nonionic softener giving a smooth, full hand and having high scorch-resistance. Imparts excellent lubricating, anti-static and sewability characteristics. Applicable to all natural and synthetic fibers. Applied in short bath to yarns, threads, piece goods and knitted goods.

## SOFTOLENE A-

A polyethylene wax emulsion recommended as a lubricant and softener for all textile fibers.

As a softener in resin finishes, it markedly improves tear strength of treated cottons and gives excellent gloss in schreiner operations. Stable with all resins and catalysts.

For samples and literature, write to

*the Hart Products Corporation*

1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J.  
Hart Products Company of Canada, Ltd., Guelph, Ontario





# For The Textile Industry's Use

## — NEW MACHINERY, EQUIPMENT AND SUPPLIES —

### Metallic Card Clothing

Oliver D. Landis, manufacturers' agent in Gastonia, N. C., is now acting as the Southern agent for A. B. Kardbeslag, Sweden, manufacturer of Duopan Hardened Point card clothing and flats. Landis announces that Kardbeslag is now ready to introduce its Flexible Stripless metallic cylinders and doffers in the U. S. The new metallic clothing is said to be cheaper in price than regular card clothing, and to be easier to mount on the card. It is also said to be lighter in weight than regular card clothing and to feature easier correction of damages created by accidents.

(Request Item No. D-1)

### Kryton Spinning Ring

The Whitin Machine Works, Whitinsville, Mass., is now in production of a new and improved spinning ring which is designed to provide satisfactory use of traveler speeds in the range of 7,000 to 8,000 f.p.m. according to an announcement made by J. Hugh Bolton, president. The ring was designed after a long period of experiment and is characterized by a different shape than that used on conventional rings. The rings also have a new finish.

The company noted that the correct breaking-in procedure is of the utmost importance in providing maximum wear life for the ring and to reduce the number of end-down in spinning. With the new procedure, the Kryton rings can be broken in within 120 hours and in most instances in a much shorter period of time. The company is now in full production of these rings.

(Request Item No. D-2)

### Nylon Dyes

Availability of a new range of dyes, the Nylomine dyestuffs, specially designed for dyeing nylon and other polyamide fibers, has been announced by Arnold, Hoffman & Co., Providence, R. I. The outstanding property of the Nylomine dyestuffs, according to Arnold, Hoffman, is their ability to produce bright shades having high light fastness, and good fastness to wet treatments. Excellent wet fastness can be achieved by a simple "back-tanning" treatment. Nylomine dyes may be applied to nylon and other polyamides in the form of loose fiber, slubbing, yarn or piece goods.

Included in the Nylomine range at present are nine colors, listed as Blue GS, Blue R and Dark Blue B; Yellow GS; Orange GS; Red 2BS; Scarlet B; Brown B; and Black BS. All the Nylomine dyes are said to be compatible with each other and exhibit similar dyeing and fastness properties. The anionic Nylomine dyestuffs are described as having excellent building-up

properties. Like other anionic dyestuffs they do not cover irregular-dyeing nylon, but experience shows their behavior on irregular-dyeing nylon to be superior to others currently available, the company reports.

(Request Item No. D-3)

### Sand Roll Covering

A new, improved sand roll covering for textile looms has been developed by the Manhattan Rubber Division of Raybestos-Manhattan Inc., Passaic, N. J., through its engineering research and testing facilities. The new product, designated Style SP, was designed to meet the demands of changing and improved methods of cloth handling. It is said to be very resistant to natural oils found in cotton, and to the mineral oils which are added to the sizing used on synthetic fabrics. In addition, the surface of Style SP sand roll covering is ideally suited to many of the new fabrics; it is tough and wear-resistant and will not cut or damage the cloth. Available in 2, 2½ and 3" widths, Style SP maintains a uniform density under the toughest conditions, and will not crack, oxidize or corrugate. Standard package quantity is 100 ft. and over.

(Request Item No. D-4)

### Amine Intermediate

The addition of aminoethylethanolamine (AEEA) in commercial quantities to its amine product line has been announced by The Dow Chemical Co., Midland, Mich. Prepared by reacting ethylenediamine with ethylene oxide, the product has a number of commercial applications in the textile industry. It is used as an intermediate in detergents, wetting agents, emulsifying agents, dyeing assistants, softening and waterproofing agents. Descriptive literature and samples are available.

(Request Item No. D-5)

### Nylon Tubing For Tufting Lines

Tufting grade nylon tubing, ⅜" o.d., is now being produced by M & Q Plastic Products, Freehold, N. J. Only 1.35 lbs. per 100 ft., this tubing permits ease of handling and facilitates the construction of lighter weight creels now in general use. It is easily cut, flared and fitted which contributes to considerably lower installation costs.

Because of its translucency, operators can see the yarn. Because of its mirror finish, it eliminates the danger of snagging of the yarn. The tubing's flexibility permits easy bending to meet the yarn and thread it through the tufting machine. The use of M & Q nylon tubing, tufting grade,

rather than other tubing materials eliminates the pick-up that ordinarily discolors or grays the yarn as it comes through the tubing.

With a smooth, mirror finish, M & Q nylon tubing has a low co-efficient of friction and offers high abrasion resistance, and it is tough enough to prevent the yarn from cutting through. This tubing is unaffected by oils, hydro-carbon, gasoline, alkalis and most solvents, and recovers up to 90% when bent or distorted, thus eliminating permanent-set crimping. It is available in 250 ft. coils for immediate delivery from the manufacturer. Bulletin No. 23 and a sample of the tubing are available on request.

(Request Item No. D-6)

### Five Power Magnifier

S. B. Logan & Co. has announced the availability of a new magnifier for use in examining fibers, finishes and for thread counting. For this purpose the manufacturer has prepared a special thread counter metal disk with a ½" square opening in the center accurately calibrated in eights and quarters of an inch. By placing this disk on the fabric, the thread is easily counted. The magnifier features five power magnification with a wide field 44 mm. lens which is said to give a wide flat image without distortion. The unit is listed at \$7. Free literature is available.

(Request Item No. D-7)

### Vat Grey

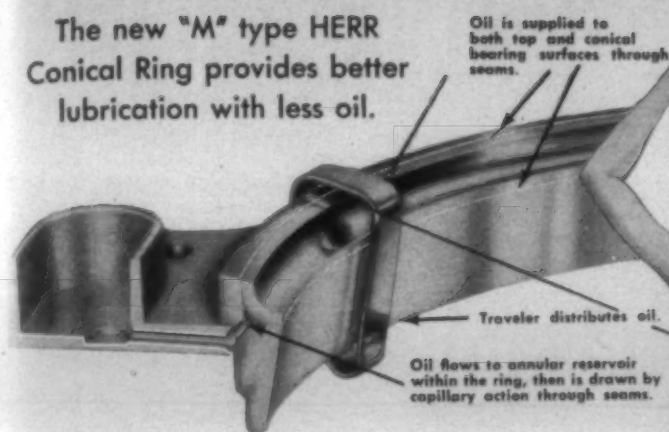
A new vat grey, suitable for use with minimum care finishes, has been announced by Sandoz Inc., New York City. It may be dyed on all types of equipment, and be printed by conventional and flash ageing methods, Sandoz reports. This new vat color, Sandothrene Grey NBG Paste Ultrasperse, is said to combine good all-around fastness with ability to withstand high temperatures and freedom from cloth tendering due to exposure to light. Level dyeings and good unions between cotton and viscose are additional advantages. Fastness to bleaching is particularly good. Principal use is said to be in bluish greys. With Sandoz vat grey N2GR, a wide range of level dyed grey shades is possible.

(Request Item No. D-8)

### Bonded Color Card

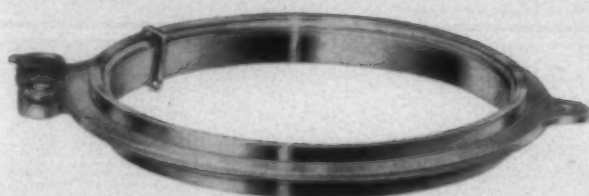
A new color card detailing 40 Bonded Colors of the recently developed fiber-reactive class is announced by Franklin Process Co., a division of Indian Head Mills. Franklin Process Bonded Colors are said to be of the type which, when applied to yarn, form an actual bond with the

The new "M" type HERR  
Conical Ring provides better  
lubrication with less oil.



CORRECT  
SPINNING OR  
TWISTING  
OF ANY YARN

with **HERR.**  
New **"M" type**  
Conical Rings and Flyers



For spinning and twisting  
of medium and heavy  
counts of yarns.



For spinning of medium  
to light counts of yarns.



Four-arm long brass  
or aluminum base.



Four-arm short brass  
or aluminum base  
with balance bail wire.



Two-arm, light long  
aluminum base.



Special pollywag flyer  
for tire cord and  
heavy yarns.

In the mad rush to meet the popularity of knitted tights—the most extraordinary in years—the yarns made with Herr Conical Rings and Flyers are helping manufacturers meet high production operation with garments that have just the right stretch and fit. Tights made of HELANCA stretch yarns, produced with Herr equipment, have the curvy, stretchy, sleek look that brings the highest prices.

Herr Flyers produce light tensions at high speeds for accurate twist and yarn control.

New "M" Type Herr Conical Rings are self-lubricating with minimum oil consumption and long traveler life. Result is clean yarn, especially valuable in handling new bulk or stretch yarns.

Let HERR Engineers solve your spinning and twisting problems.

**HERR**®

**MANUFACTURING CO., INC.**

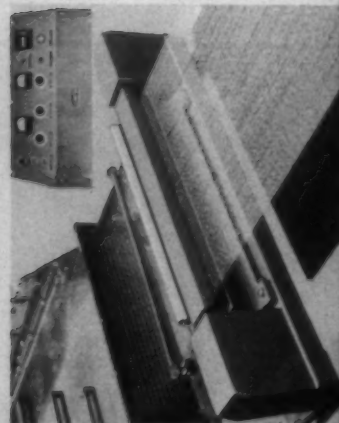
312 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

See us at Booths 38-39—Knitting Arts Exhibition



- AUTOMATICALLY DETECTS DEFECTS IN YARN DURING WARPING
- ELECTRICALLY COUNTS DEFECTS ABOVE PRE-SELECTED SIZE
- FOR COTTON — WOOL — AND SYNTHETIC YARNS

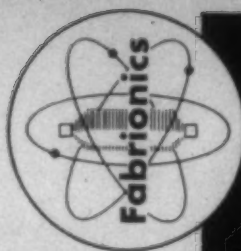


- STOPS WARPERS FOR REMOVAL OF OBJECTIONAL DEFECTS
- FAIL-SAFE CONTROL INSURES CONSTANT SENSITIVITY
- DETECTS DEFECTS AS SMALL AS A SINGLE BROKEN FILAMENT

The Fabronics Warp Yarn Monitor is an electronically controlled monitoring device which automatically detects imperfections in yarn above a pre-selected magnitude, simultaneously counts them and stops the warper to permit their removal. The Liner Discriminator model detects and differentiates length as well as diameter defects.

The Warp Yarn Monitor is placed to the rear of a warper at which point the yarn is condensed into a flatsheet and it is drawn over a single or hard chrome plated steel rods and photo-electrically inspected.

NOTE: Free literature and complete catalog on quality instruments and devices are offered by the Fabronics Corporation. Write to the FABRIONICS CORPORATION, P.O. Box 521, Dept. H, Huntington, L. I., New York. Patent Pending



## FABRIONICS WARP YARN MONITOR

### FOR THE TEXTILE INDUSTRY'S USE—

cellulosic fiber. For that reason they are exceptionally fast to washing and light. Their extreme brilliance, Franklin Process notes, enables them in some cases to duplicate the vividness of a vat shade at less cost.

Experimentation at the Franklin Process application laboratory research center over the past several months has developed the company's new Bonded Colors in a complete range. While not fast to bleaching, Franklin Process Bonded Colors are described as fast to 20 to 80 hours Fade-O-Meter and 140° or 160° washing, depending upon the specific shade. Franklin Process indicates that the new colors "may be the answer" for manufacturers who encounter fastness or levelness problems with conventional yard-dyed colors. The Bonded Color card is available on request from any Franklin Process Co. sales office or plant.

(Request Item No. D-9)

### Bearing Temperature Monitor

An advanced temperature monitoring system, capable of monitoring a virtually unlimited number of points continuously, has been announced by Fenwal Inc., Ashland, Mass. This is said to be one of the most extensive applications of thermistor sensing devices in the temperature instrumentation field. Highly flexible, compact and simple in operation, the monitoring system embodies new design concepts that provide exceptional reliability and stability with an absolute minimum of maintenance.

The continuous system is designed to detect and furnish warning when the temperature at any protected point reaches a preselected high or low limit. Applications therefore include monitoring bearing temperatures in generators, turbines, pumps and other rotating equipment, as well as temperature protection for processes, processing equipment, pipelines, and all types of industrial installations. The system can be used for monitoring temperatures between -25 and +600° F.

(Request Item No. D-10)

### Yellow For Cellulosics

A new "super bright" yellow dyestuff, particularly recommended for cellulosic fibers, has been developed by the dyestuff division of Geigy Chemical Corp., Yonkers, N. Y. The company says that the new dyestuff, Diphenyl Brilliant Flavine 7GFF, has a distinct fluorescent cast and greater brilliance than any other direct yellow dyestuff on the market.

It has a light fastness rating of 3 on both rayon and cotton. Similar ratings are obtained for washing at 120° F. While the new yellow may be too bright for use as a straight yellow, except as a novelty color, its widest field of application will be in combinations with Solophenyl Turquoise Blue GRL, Turquoise Blue GL and Blue 8GL to produce greens with a new brightness, the company says.

Other properties which Geigy attributes to Diphenyl Brilliant Flavine 7GFF are:

Suitability for open jig application, since maximum exhaustion can be obtained at 180° F.; excellent migration and therefore good level dyeing; good solubility, with a 5 rating; and improved light fastness with certain aftertreatments—light fastness gaining up to 1½ points with the use of urea formaldehyde and melamine formaldehyde crease resins.

Tinofix LW aftertreatment increases fastness to water and, when added to resin finish, provides good fastness to washing. The dye is also recommended for screen and machine printing. Bulketin 113 G covering fastness properties, dyeing procedures and characteristics of Diphenyl Brilliant Flavine 7GFF is available.

(Request Item No. D-11)

### Fork Trucks

Clark Equipment Co.'s industrial truck division is broadening its line of gas powered Clarklift fork trucks by making available five models with standard transmissions and clutches rather than the Hydrotork automatic transmission which is regular Clarklift equipment. According to B. E. Phillips, general sales manager of the division, the standard transmission models will be priced approximately \$350 below the cost of regular Clarklifts.

The five models affected are the CF30, CF40 and CF50, cushion-tire machines of 3,000, 4,000 and 5,000 lbs. capacity, and the CFY40 and CFY50, pneumatic-tire machines of 4,000 and 5,000 lbs. capacity. The machines utilize a Clark-built transmission with an 11" diameter dry plate clutch for quick servicing. The "quick change" feature of the clutch permits complete removal and replacement in less than one hour.

Aside from the transmission and clutch construction, most Clarklift features of styling, operational ease, safety and maintenance are included in the new models. Lift-tilt controls are mounted on the steering column within fingertip reach of the operator. Long wheelbase and equal-diameter drive and steer wheels provide easy steering. Engine oil pressure light and fuel and temperature gages are mounted in the cowl. A swing-out hood provides immediate access to the engine for routine servicing. The counterweight is released by removing one bolt. The hydraulic brakes have self-adjusting shoes. A 12-volt electrical system is standard.

The telescopic upright used in each model is mounted on adjustable rollers to insure stability and compensate for wear. Tilt cylinders have a lock valve which prevents drifting of the uprights. All hydraulic valves are located in the cowl for easy access, and the hydraulic system is protected by a relief valve and filters. Identical fork mounting on the three cushion-tire models permits interchangeability of forks and attachments from one machine to another.

(Request Item No. D-12)

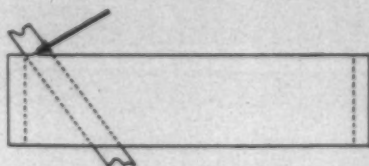
### Finishing Agent

The optimum in softness and smoothness is the result claimed for Solutol-S,



# Gates 4-in-One Check Strap LASTS up to 3 TIMES LONGER

## New Checking Principle is Secret of Longer Wear—



With the ordinary one-piece check strap, all shock and wear from the picker stick are concentrated at one point.



**Gates 4-in-1 Check Strap** is built with four separate bands. As the checking action begins, a portion of the picker stick force is absorbed

by the top band—then in turn, the second, third and fourth bands each absorb a portion of the shock, providing a checking action that is smooth and even. Wear is distributed evenly over the entire width of the strap, increasing service life up to 3 times.

## You Get These Important Benefits:

**Unaffected by Changes in Humidity**—no stretch or contraction—ready to go Monday mornings without time-consuming adjustments.

**Stronger and Tougher than Leather**—yet flexible and light in weight.

**Absorbs Shock of Picker Stick**—resilient and flexible—conforms to any action of the picker stick, absorbing blows and shocks.

**Saves Installation Time**—quickly installed and adjusted without removing picker sticks. No new brackets needed.

**Competitive Price**—even though Gates 4-in-1 Check Strap has many important advantages over ordinary straps, it is competitively priced. For faster, more economical production, equip your looms with *all Gates specially engineered accessories*...available from Gates Textile Distributors.



The Gates Rubber Company, Denver, Colorado

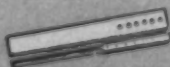
The Mark of Specialized Research

TPA-900

Take-up Roll Coverings  
Card Bands  
Cone and Evener Belts  
Spinning Frame Drives



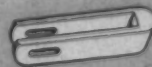
Reversible  
Pickers



Tex-Hide  
Harness Straps



Tex-Hide and  
Vulco Loop Pickers



Thin Tex, Vulco, Tex-Hide &  
Super Tex-Hide Lug Straps

# Gates Textile Accessories



Each part is vital to loom efficiency. That's why Draper original repair parts are designed to meet specific loom conditions. Fabric range, loom speed, loom size and model are all given careful consideration before the development of a Draper original repair part. Application problems are analyzed and the accessibility of the part, after it is on the loom, is carefully studied. Constant research and development make yesteryear's equipment obsolete. That's



why Draper Corporation continues to place more emphasis on product development and careful mill trial than any other loom builder in the world. For better weaving efficiency insist on new Draper looms and Draper repair parts. Your investment in original Draper products is your best guarantee of quality and performance.



**DRAPER CORPORATION**

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.



# "HOLYOKE" CALENDER ROLLS



Established  
1863

For nearly a century "HOLYOKE" Rolls have been world renowned for sturdy, rugged construction, designed to give dependable, long life.

We are equipped to give service on new and refilled rolls with various types of fillings and densities. Also stainless steel, steel, brass and special purpose rolls.

Our engineers will gladly call to give you the benefit of their long experience making rolls for processing textiles and paper.

*Correspondence Invited*

**HOLYOKE MACHINE  
COMPANY**

CALENDER and EMBOSsing ROLLS  
for the PAPER and TEXTILE INDUSTRIES  
WATER FILTRATION EQUIPMENT  
HOLYOKE, MASSACHUSETTS

## FOR THE TEXTILE INDUSTRY'S USE—

durable and economical new finishing agent announced by Solutol Chemical Co., Natick, R. I. Designated specifically for resin finishing of cottons and synthetics, particularly in connection with thermo-setting resins for crease resistant fabrics, Solutol-S is effective in yielding increased tear strength, tensile strength and crease angle values as well as excellent sewability and abrasion resistance. It is non-yellowing and non-chlorine retentive.

Solutol-S is also said to be effective as a pure finish or used with other agents such as thermo-plastic resins, starches, gums, etc. Also announced is Antifoam-G, silicone defoaming agent effective in low concentrations for foam control in finishing, printing and dye baths at high and low temperatures. Excellent dispersability is said to insure rapid and complete foam dissipation. (Request Item No. D-13)

## Yellow-Green Pigment

General Aniline & Film Corp., New York City, has introduced a new pigment which it describes as the yellowest permanent green pigment yet developed. Called Heliogen Viridine Y, the pigment is the first major expansion of the phthalocyanine spectrum since its introduction more than 20 years ago, according to General Aniline. It will be used to provide a wide range of shades in textile prints and inks.

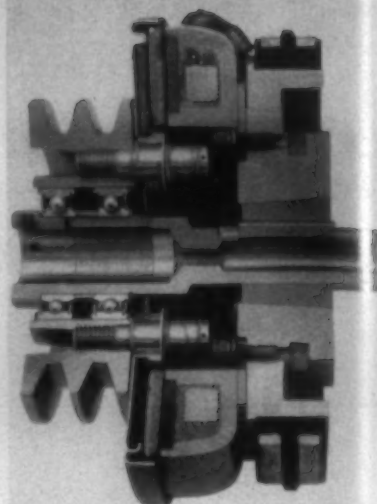
The new product which culminates ten years of research and development work is now available for producing vivid, light-fast colors free of the dichromatic effect often exhibited by mixtures of yellow and green pigments. It is said to have high-tinting power and to be stable to organic solvents, acids and alkalis. It is available in many forms, including toners, lakes, dispersed powders, water dispersions, pastes and presscakes. (Request Item No. D-14)

## Electric Clutch And Sheave

Electro-Sheave, a combined electric clutch and sheave assembly for direct installation on all standard N.E.M.A. electric motor shafts, is announced by the Warner Electric Brake & Clutch Co., Beloit, Wisc. Five sizes of standard clutch units rated from 1 to 25 h.p. are now in production. They can be applied on new equipment or used to modernize existing machinery.

The new drives are said to permit users to take advantage of electric no-load starting without the engineering, machining and assembly costs usually required to adapt standard electric clutches to primary shafts. Electro-Sheaves engage or release at any speed. For inching or jogging several starts are possible in less than one revolution of the clutch without what is considered normal wear and tear on motors, controls or machinery. Release is instantaneous and the load is braked without plugging the motor.

Only a key and setscrew are required to install the unit in addition to making electrical connections to the clutch and brushholder from the control panel. Be-



Warner Electric Brake & Clutch Co. is making available this combined electric clutch and sheave assembly for all N.E.M.A. motor shafts.

cause the entire clutch and sheave is aligned and assembled correctly at the factory, engineering time and machining for adapting it to a particular installation are said to be eliminated. The clutch, ball-bearing sheave, and shaft extension sleeve all fit as a single package onto standard N.E.M.A. motor shafts. Actuation of the clutch field attracts and locks the armature, which picks up motor rotation and transmits it to the pulley. When the clutch is disengaged, the sheave runs freely on anti-friction bearings. There is no mechanical connection between motor shaft and sheave, so no torque is transmitted from one to the other.

(Request Item No. D-15)

## Polyethylene Packaging

The newly developed Amscomatic packaging method is the first production line packaging set-up for packaging products in polyethylene bags, according to Amsco Packaging Machinery Inc., Long Island City, N. Y. The finished package is fine-line edge sealed on three sides, doing away with conventional center-seam overlaps, end folds and seals or underlap folds and seals. The packaging unit consists of an edge seal mechanism with an intake conveyor that permits automatic feeding from either horizontal or vertical positions depending upon the rigidity or softness of the product.

Because there are no seams to mar either side of the package, it provides a double-faced package with unobstructed visibility and duplicate printing if desired. The Amscomatic Packaging Method accommodates packaging requirements of over 100 per minute or as little as 10.

An Amscomatic Packaging Unit is said to be as automatic as an automatic over-wrap machine requiring manual loading but substantially lower in cost. With present efficient bag loading equipment, operators can, in one motion, insert products directly into edge-sealed lipped bags and place in the Amscomatic intake conveyor at speeds comparable to or better than the speed of

The WHITIN SUPER J's New Running Mate-

# the SUPER LAP machine

WHITIN  
EVEN-DRAFT\* DRAWING FRAME



WHITIN SUPER J\* COMBER

The new Whitin Super Lap machine heralds a major advance in cotton processing. Running-mate to the famous Super J Comber, the Super Lap and the new Whitin Super Lap Preparation Method\* hold promise of material savings in the making of combed yarns thru improving yarn quality, increasing Comber production and reducing Comber waste.

The Super Lap was specifically designed by Whitin Research engineers to implement a new concept in preparing Comber laps — the Whitin Super Lap Preparation Method — in which card sliver is first processed on the Even-Draft Drawing and then formed into laps by the Super Lap. This sequence of operations results in the superior lap in which all

\*(Pat. applied for)

hooked and bent fibers have been straightened and made parallel — then on to the Super J Comber.

Through this new method Whitin offers you these competitive advantages:

- Lap production 500 lbs./hr. — 35 lb. laps from 60-end can feed.
- Up to 3% reduction in noils.
- Lap weights up to 1000 gr./yd. permit increased Comber production. (20-25%).
- Straightened and parallel fibers in lap afford easier combing.
- Recommended total draft 24-32.
- Improved yarn quality.

For complete information see Whitin representative or write us direct.

## WHITIN MACHINE WORKS

TRADE MARK

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



## Get New Flyer Performance from Old Flyers

Ideal's Reconditioning Service completely rebuilds worn flyers, spindles, pressers and bolsters to standard specifications. All three work in perfect harmony — no wobbling — no roving jerks — no runovers at top or bottom of the bobbins. Ideal Reconditioning Service gives you thousands of perfect packages for much less than the cost of new flyers.

Ideal Reconditioning Service is in a class by itself because it includes services not available elsewhere. Here is a partial list:

**Noses and barrel hubs realigned**

**Barrel hubs die-swaged full length**

**Slots regauged**

**Hollow legs repaired**

**Worn ends rebuilt and refinished**

**Pressers blocked with proper curve and balance . . . or replaced**

**Flyers reblocked**

**Spindles rebuilt or replaced**

**Your choice of finishes**

**. . . PLUS Selecto-Speed\* Balancing for smooth running at all speeds.**

Let us give you full information and prices.

\*Patented

**Ideal Machine Shops, Inc.  
Bessemer City, N. C.**

Continuous Service to Textile Mills Since 1925

loading products into the in-feeds of overwrapping machines.

Great economies are said to be reflected in Amscomatic polyethylene packages because no stiffening devices such as U-boards, trays, etc., are needed. Provision is made for product safety. Automatic product protection control, accomplished with an electric eye, stops the sealing section before damage, if the package length exceeds a predetermined tolerance setting or the package is placed incorrectly on the conveyor.

(Request Item No. D-16)

### Plastic Processing Equipment

Corrosion-proof textile processing equipment costing up to 25% less than lead fabrications are now being produced from Duracor reinforced plastic by The Ceilcote Co. Duracor viscose rayon spinning ma-

chines are one of several important types of equipment now in operation. Designed to outlast lead-lined equipment, Duracor viscose spinning machines are said to provide unsurpassed resistance to caustics, sodium sulfate, carbon disulphide as well as sulphuric acid in fume and liquid form. Despite severe corrosion conditions, Duracor requires virtually no maintenance.

Outstanding advantages of Duracor textile equipment are said to include extreme resistance to puncture damage, 180° F. design temperature and a low co-efficient of expansion. It is also non-conductive. Duracor reinforced plastic is available in various grades that offer a combination of special chemical, flame and abrasion resistance. Important physical properties of Duracor include tensile strength ranging from 11,000 to 15,000 p.s.i. and flexural strength from 20,000 to 30,000 p.s.i.

(Request Item No. D-17)

## For the Mill Bookshelf

### Textile Chemicals

Apex Chemical Co. has announced the availability of a brochure describing its full line of textile chemicals. Titled "101 Ways To Serve You," the booklet gives the name of each of the firm's products which is used in the textile industry and a brief statement of the use of the product.

(Request Item No. D-18)

### Instrument Rental

Bulletin GEA-6829, published by the General Electric Co., Schenectady, N. Y., describes the new nationwide instrument rental program established by the company through its network of service shops. The 8-page bulletin discusses the scope of the program and other pertinent factors involving more than 13,000 instruments offered for rent.

(Request Item No. D-19)

### Sodium Phosphate Products

Monsanto Chemical Co.'s inorganic chemicals division has announced the publication of a revised comprehensive technical bulletin and use reference guide covering its many sodium phosphate products. In addition to a technical description of the physical and chemical properties of the various sodium phosphates, the bulletin describes many applications. Helpful information is included on the use of phosphates in textile processing.

(Request Item No. D-20)

### Fire Extinguishers

A new 6-page folder titled "A Guide To Fire Extinguishers," has been issued by Ansul Chemical Co., Marienette, Wisc. The folder contains a table which compares characteristics of various types of fire ex-

tinguishers. Also included is a bar graph showing the comparative effectiveness of extinguishing agents according to Underwriters' Laboratory ratings. Cut-away drawings of an Ansul dry chemical extinguisher and an Ansul stored pressure water extinguisher are printed inside the folder.

(Request Item No. D-21)

### Surface Active Agent

A new 24-page catalog of surface active agents has been published by the Onyx Oil & Chemical Co., Jersey City, N. J. Each product is described by trade name, active ingredient, percent activity, physical state, general use, specific applications and properties.

The products are divided into three general classes; anionic, cationic and non-ionic. There is a 2-page section explaining the chemistry of each of these groups.

(Request Item No. D-22)

### Wire Thread Guides

Mitchell-Bissell Co. of Trenton, N. J., has published an 8-page brochure containing the specifications and detailed information on hundreds of standard chromium plated wire thread guides. This can be used separately or incorporated into their general loose-leaf catalog of thread guides. Copies of this brochure as well as the complete catalog are available.

(Request Item No. D-23)

### Pushbutton Switch Devices

Micro Switch, Freeport, Ill., a division of Minneapolis-Honeywell Regulator Co., has announced the availability of an all-new 20-page catalog, No. 67, titled "Series 2 Lighted Indicator and Pushbutton Switch Devices." Designed for modern control



panels, this new system of devices is said to offer great versatility in combined indication and control. Parts simply snap together to form combination switch-indicator devices. On the panel front a wide selection of indicator color combinations and mounting schemes provides functional simplicity and very versatile indication. Behind the panel, terminals are designed for easy connection. Almost any switching requirement is met by a wide selection of switch units which simply clip to the operator units.

Catalog 67 shows in full color the versatility of this new series. Split pages allow quick selection and comparison of the operator units, indicator units and switch units in the new series. The catalog features full dimension drawings of all major items as well as photographs of all items in the series. In addition, technical information is given on lighting, indication, mounting and arrangement. (Request Item No. D-24)

#### Warp Size For Synthetic Yarns

A new warp size for spun synthetic yarns, Mira-Film acetate gum, is described in a technical data sheet issued by A. E. Staley Mfg. Co., Decatur, Ill. Detailed information on properties, range of viscosities, and applications is given in the 4-page Technical Data Sheet No. 115.

(Request Item No. D-25)

#### Warp Sizing

A new 4-page technical data sheet, No. 114, published by A. E. Staley Mfg. Co., cites the increased weaving efficiency said to result from the use of Miraloid acetate gum. The gum is a thick-boiling, non-congealing corn starch derivative developed specifically for warp sizing of fine combed cotton, worsted and worsted-synthetic blend yarns. The data sheet details the properties of the new product, reports test results and describes applications.

(Request Item No. D-26)

#### Fiber Facts

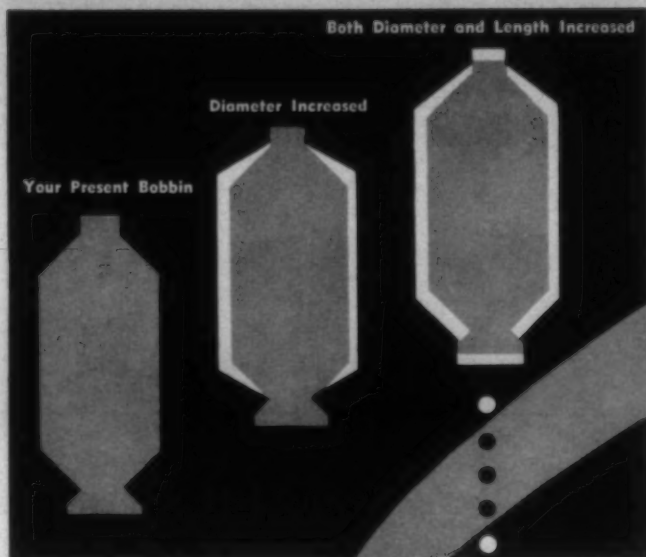
American Viscose Corp. announces the availability of "1959 Fiber Facts," a new, pocket-size Avisco publication containing up-to-the-minute fiber data and textile information. "Fiber Facts" includes a complete glossary of textile terms, fiber properties tabled for easy comparison, information on American Viscose personnel and products, denier conversion tables and a textile bibliography.

(Request Item No. D-27)

#### Yarn Dyeing Guide

To expedite service and promote understanding between supplier and customer, a new booklet is available from Franklin Process Co., a division of Indian Head Mills. Title of the new guide is: "What You Should Know When Ordering Yarn Dyeing or Colored Yarns." The booklet notes that most misunderstandings are attributable to certain recurrent situations.

In explicit detail, the new Franklin Process booklet provides basic data and



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\*Shown on opposite page

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## FOR THE MILL BOOKSHELF

suggestions on important conditions to observe when ordering yarn dyeing or colored yarns, as well as what to expect—and what not to expect—in regard to weight, billing, shipping, putups, special services, etc.

(Request Item No. D-28)

## Industrial Trucks

Of interest to present or prospective users of powered industrial trucks is a new condensed catalog published by The Elwell-Parker Electric Co., Cleveland, Ohio. The 12-page free literature classifies truck types under six categories. Within each category is listed complete specifications for all models, plus numerous photographs of various model types. One section of the catalog is devoted to fork truck attachments, while another section illustrates and describes major truck components. The literature details the company's special engineering service, which provides specialized truck design to meet specific handling requirements that cannot be performed with standard models.

(Request Item No. D-29)

## Data Processing

Royal-McBee Corp., Port Chester, N. Y., has announced the availability of a 10-page brochure (S-500) on its new automatic Keysort system. This newly-announced data processing system, described as a new concept in practical office automation, is ex-

plained in non-technical terms. The brochure illustrates how an original unit record can be coded for automatic processing with flexible low-cost machines. The system is adaptable to centralized or decentralized procedures in companies of all sizes.

Also available is brochure No. S-463, "New Concepts in Practical Automation and Electronic Computers." This brochure features the automatic Keysort system for data processing in which original records are used to achieve automation without transfer of data to other unit cards or tape. The system provides for both mechanical marginal sorting to classifications and internal coding of quantities and amounts, which is effected as a by-product of establishing accounting controls. Inner coding later makes possible automatic tabulations of various classifications.

The LGP-30 electronic computer is illustrated with a presentation of its characteristics and capabilities. The brochure states the LGP-30 is a general purpose computer capable of solving a wide range of complex problems in the fields of science, engineering, business and statistics. Also illustrated and described are the general records poster, Royal McBee specialized binders and the McBee Binding Machine for on-the-premise binding of records.

(Request Item No. D-30)

## Small Business Guide

Dun & Bradstreet has announced the availability of its latest small business handbook. The volume is titled "How To Con-



trol Accounts Receivable for Greater Profit." It deals with the function, control and effective collection of accounts receivable. Included are eight pages of tables for determining the average collection period. The 35-page booklets are available at \$1 each from Dun & Bradstreet, 99 Church St., New York 8, N. Y.

## Equipment Leasing

A new study which deals with the advantages and disadvantages of equipment leasing for smaller manufacturers has been published by the Foundation for Management Research, Chicago, Ill. In the 16-page study there is a complete discussion of the cost of leasing compared with outright purchase and purchase through conditional sales contract. Complete cost charts are used to illustrate the material. The advantages and disadvantages of equipment leasing in specific business situations encountered by smaller enterprises are set out in detail. Single copies are available free of charge by writing to the Foundation for Management Research, 121 West Adams Street, Chicago 3, Ill.

## A.E.T.M. Textile Standards

The many standards developed by the American Society for Testing Materials' Committee D-13 on textile materials covering the widely used products of the industry are included in a newly-published 880-page book. They provide methods of tests, tolerances within which textiles must come in order that they shall constitute good delivery on contract, and specification requirements—standards of quality. New standard methods of test on extractable matter in oven dried wool, fiber length of wool and moisture in wool by oven drying are included. There are 128 standards in the volume of which 30 are recently revised or have had their status changed and eight are new.

Included are terms, descriptions, specifications for testing machines; methods for humidity testing, sampling, interlaboratory testing, quantitative and qualitative analysis, resistance to insect pests and micro-organisms, fibers, yarns, threads and cordage. Also included are standards for fabrics, nonwoven fabrics, hosiery, carpets, tire cord, asbestos textiles, bast and leaf fiber textiles, kraft yarns, cotton textiles; glass fiber, man-made fiber and wool textiles. In addition there are 16 extensive appendices. This compilation provides in compact, convenient form, data and information of great importance to all who deal with textile materials. Copies of this book may be obtained from A.S.T.M. Headquarters, 1916 Race St., Philadelphia 3, Pa. Copies are \$7.50 each.

## Some Important Facts about Rotating Joints

### Original Costs

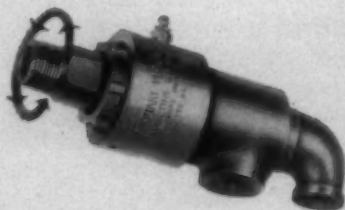
are comparatively small, and the difference in cost between the ROTARY UNION and the cheapest joint is insignificant.

### Operating Costs

often vary as much as 300% and the mal-functioning of any joint can cause serious losses in quality and production. Even slight steam leaks cost dollars before they are noticed, and joints which need constant attention increase labor costs.

### Here are the Advantages of the ROTARY UNION\*

The ROTARY UNION is a ball bearing precision mechanical seal which automatically maintains a perfect seal for many thousands of hours. It uses no springs or packings. The ROTARY UNION is self-adjusting to surges in pressure and automatically compensates for wear. Flexible hose connections compensate for misalignment of machine adaptors. The ROTARY UNION requires no mechanical maintenance—minimizes downtime and reduces labor costs and replacements.



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# Serving The Textile Industry

## Universal Winding Co. Reports Large Backlog

Universal Winding Co., Providence, R. I., has reported that unfilled orders on the Unifil loom winder total well in excess of \$10 million. The announcement was made last month as the company's stock was listed on the American Stock Exchange. Robert Leeson, company president, noted that this would be sufficient to maintain capacity production well into 1960. Leeson reported that the company had received seven orders from Europe and that several European manufacturers will display the Unifil on their looms at the Milan Fair in September. Universal is presently engaged in the process of calling in its preferred stock in favor of common stock.

## Cotton McCauley Co. Has New Charlotte Office

Cotton McCauley Co., sales agents for textile equipment and accessories, has moved into new quarters at 3813 South Boulevard, Charlotte. The firm's Southern sales operations will be handled from this new location. Ray McCauley, vice-president, will be in charge of Southern sales assisted by J. B. Howarth, sales agent. The company's headquarters office is in Pawtucket, R. I.

## Celanese Reports Increased Profit

First-quarter sales and earnings of the Celanese Corp. of America are expected to be higher than in the corresponding period of 1958. Harold Blancke, president, said that earnings are expected to total about 64 cents a share on sales of \$58,890,000 as compared with earnings of 23 cents a share on sales of \$48,965,000 in the first quarter of 1958. Improved performance, Blancke said, reflects the achievement of a better market balance with a broader base of operations. The company will continue to diversify as opportunities develop, he said.

Louis Laun, merchandising manager of the textile division, has announced a new promotion idea directed toward the home furnishings industry. A special house will be built as a showcase for the various products made of the company's fibers, plastics and chemicals. The promotion will be called "The American Idea" and will be featured in 120 stores this Fall.

## Morrison Machinery Co. To Establish S. C. Plant

A branch plant of the Morrison Machine Co. of Paterson, N. J., will be established at Fort Lawn, S. C. The plant will manufacture textile dyeing and finishing machinery. Initially the plant will employ about 100 workers. It will be located on a 60-acre site served by the Lancaster & Chester Railroad. The company said it chose the location because it is at the approximate center of the South's dyeing and finishing operations.

## American MonoRail Co. Appoints Mexican Dealer

The American MonoRail Co., Cleveland, Ohio, has announced the appointment of the Roberts Co. de Mexico, located at Ave. Reforma 916 A, Puebla Pue, Mexico, as its dealer in Mexico for its products used in that country's rapidly growing cotton mill and textile industry. Among the products Roberts will handle, under the direction of Ing. Alejandro Bautista, manager, are the automatic cleaning units and overhead handling equipment manufactured by American MonoRail for the textile industry.

## Venango Engineering Co. To Sell Tube Dyeing Machine

Venango Engineering Co., Philadelphia, Pa., has acquired exclusive sales rights in the U. S. for the Mezzera Type T.M.B. tube dyeing machine for dyeing yarn in hank forms. The machines are built in standard types, 2, 4, 8, 12, 20 tubes and laboratory

type. The Mezzera tube dyeing machine employs the principle of big liquor flow with a minimum movement of the yarn. During the dyeing a hank moving rod rotates in both directions round the perforated tubes at previously fixed intervals.

All machines are equipped with closing hoods which have inspection windows, which beside saving space prevents the loss of fumes and heat, and results in fuel economy. These machines are said to be excellent for dyeing viscose, bemberg, acetate-rayon, natural silk, cotton, synthetic fibers, and yarns in hanks, even of the most delicate types.

## Chemstrand Reports Increased Earnings

The Chemstrand Corp., Decatur, Ala., has reported its operating results for 1958 on a consolidated basis. The consolidated figures include the corporation's two wholly-owned foreign subsidiaries, Chemstrand Ltd., of the United Kingdom and Chemstrand Overseas, S. A., Panama. The latter retains a portion of the profits from a large segment of the firm's export sales for servicing overseas activities. The group's total sales were \$172,968,381, a gain of 19% over the previous record volume of \$145,444,600 attained in 1957.

The consolidated net income in 1958 after all charges, including depreciation and income taxes, amounted to \$18,354,723 compared with \$18,813,380 in 1957. The consolidated operating costs in 1958 increased to \$132,004,834 from \$104,455,596 in 1957.

Sales by the corporation were \$170,630,520 compared to \$146,042,845 in 1957, an increase of 17%. The net income of the corporation in 1958 after all charges, including depreciation and income taxes, amounted to \$19,190,793, compared with \$20,054,608 in 1957. Total operating costs amounted to \$128,830,977 in 1958, an increase over the previous year's total of \$103,822,244. Chemstrand reported that nylon sales for the year rose 15% while Acrilan acrylic fiber sales were up 42%.

The company reported that total penetration of the U. S. fiber market by chemical fibers last year was less than 10%. This suggests considerable growth potential, the company stated. The company said its marketing activities are aimed at establishing new consumer products which use its fibers and upgrading present consumer products now in use.

## Industrial Rayon Showing Recovery From 1958 Loss

Industrial Rayon Corp. has reported that its loss operations in 1958 have been reversed and that a small profit was realized in each of the first two months of 1959. Net loss in 1958 was \$3,057,838, or \$1.65

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1959

## SERVING THE TEXTILE INDUSTRY—

per share, which compares with a net profit in 1957 of \$1,199,555, or 65 cents a share. In his annual letter to stockholders, Hayden B. Kline, president, said the decline in 1958 sales to \$47,852,361 from \$58,085,769 in the previous year was just one of the factors contributing to the loss. Other principal causes were large unabsorbed fixed charges resulting from deep curtailment of production and expenses incident to conversion of facilities for the manufacture of the new Tyrex viscose tire cord.

Sales of the company's knitted fabrics division increased in 1958 for the second consecutive year, according to the report. The sales growth of Eiderlon, the company's new cotton and rayon knitted fabric used in the manufacture of ladies' and children's undergarments, has been very encouraging and is expected to continue. In commenting on the activities of its nylon staple division, the company said that industry capacity for nylon staple is in excess of present demand.

Net worth at the end of 1958 was \$70,999,000. Substantially increased expenditures for additions to plant and equipment during the year totaled \$4,205,000. Expenditures for research and development were \$2,288,000. Working capital at the year-end was \$35,928,000, equivalent to \$19.41 per share.

### Celanese Adopts Celaloft Name For Bulked Yarns

Celanese Corp. of America has announced that all deniers of its bulked acetate filament yarns will be sold under the trademark Celaloft. Bulked yarns, introduced about a

year ago, have been rapidly gaining in popularity, according to Louis Laun, general merchandising manager of the company's fibers division. Bulked yarns are characterized by a "dry" or wool-like hand, more "bloom," duller colors, and, in the case of fabrics made of solution-dyed yarns, a subtle change in the appearance of the color itself. Celaloft yarns are available in 230, 350, 700, 1,080, 2,100 and 2,700 deniers.

Celaperm, the company's solution dyed acetate yarn, will continue to be identified by that term even when the fibers are bulked. Bulking is a process in which the fibers are subjected to a blast of air during processing resulting in shredding and bulking of the filament.

### The Synthane Corp. Marks 30th Anniversary

Synthane Corp., Oaks, Pa., a leading manufacturer of industrial laminated plastics, this year marks the completion of 30 years of production. Synthane is one of the oldest plastics concerns in this country. Robert R. Titus, the founder, is still active as president of the corporation, which was incorporated in 1928. A graduate of Yale University, and active in Philadelphia area civic affairs, Titus got production under way at his company early in 1929.

Synthane Corp. today lays claim to being one of the world's largest fabricators of industrial laminated plastic sheets, rods and tubes, and a pioneer in developing such products as ball bearing retainers and rotor vanes. Distributed throughout the world, Synthane is widely used in the textile industry.

### Creslan Consumer Ads To Begin In September

The advertising campaign to build trade and consumer recognition for American Cyanamid Co.'s new Creslan acrylic fiber will be the largest ever put behind a fiber in its introductory year, according to Charles W. Rice Jr., advertising and promotion manager for the company's fibers division.

The versatile new fiber is being marketed in seven initial product lines this Spring he reported, in preparation for stepped up marketing when production increases. The recognition campaign to the trade began last August, Rice said, and will enter its consumer phase this September. Product advertising, co-ordinated with complete promotional efforts, is being carried on this Spring in support of introductory marketing programs.

### Werner Textile Consultants Publishes Promotional Brochure

Werner Textile Consultants, New York City, has published a 6-page promotional brochure describing the ways textile management can be aided by use of consultants. The brochure discusses consultants in general and Wernertex in particular.

"If all is running smoothly," the brochure says, "and your company is making the kind of profit that satisfies you and your

stockholders, all a consultant can do is to help you plan ahead in order to assure a continued profit picture. If, however, yours is a more usual situation with operational or personnel problems and trouble spots in such places as production, administration or sales, a consultant can do a great number of things for you—including the changing of red ink into black."

Wernertex services cover management, administration, personnel, manufacturing and marketing. The organization is reported to be the world's largest consulting firm specializing in assistance to the textile industry.

### Celanese Corp. Of America May Produce Missile Fuels

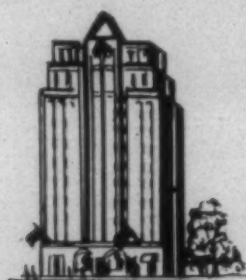
Celanese Corp. of America has formulated plans to actively explore the field of high energy chemicals for missile propulsion systems, according to Richard W. Kixmiller, vice-president of Celanese and general manager of the company's chemical division. At the same time he announced the appointment of Julius P. Zeigler, former chief of chemicals, propellants and explosives engineering development for the Department of Army ammunition command, to the newly created position of manager of high energy materials operation.

Kixmiller explained that the company's capabilities in polymers and hydrocarbon oxidation chemicals, on which missile fuels are based, made the company's decision to establish a position in the field a very logical one. The solid fuels in use today are polymers, Kixmiller said, and Celanese is one of the nation's leading producers of polymers and the monomers from which they are made. High energy liquid fuels are directly related to the company's major position in production of industrial chemicals by oxidation of hydrocarbons. Kixmiller also cited the government's stated desire to have additional chemical companies join in developmental efforts and the belief that rapid growth lies ahead for both military and non-military applications of high energy fuels.

### American Viscose Corp. Reports \$7 Million Profit

American Viscose Corp. has reported sales and other income of \$220 million in 1958, with profits from operations of \$6.9 million. American Viscose sales in the first quarter of 1959 are continuing at the high rates reached in the last quarter of 1958 when sales were \$62 million and profits \$2.8 million, according to William H. Brown, vice-president and treasurer of the company. He termed the development of Tyrex tire yarn the "most significant thing that happened to our business in 1958." He said Tyrex "holds every promise of reversing the downward trend in the viscose tire yarn business." Practically every 1959 model of all the automobiles produced in the U. S. is equipped with tires made with Tyrex viscose tire cord, Brown said.

He also revealed that American Viscose "in the intensely competitive rayon and acetate markets has held its share of the business . . . for example, in 1953 we had



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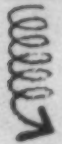


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## SERVING THE TEXTILE INDUSTRY—

30.4% of all business and in 1958 we had 32%." As of December 31, 1958, the firm's current assets were about four times current liabilities. American Viscose has no bank loans or long term debts.

### Warner & Swasey Co. Expects Good Year

Warner & Swasey Co., Cleveland, Ohio, expects shipments of its textile machinery in 1959 to reach between \$3.5 and \$4 million, as compared with \$3 million in 1958. Walter K. Bailey, president, said that the

company's total shipments as well as its earnings should be substantially greater in 1959 than in 1958. Shipments of all the company's products in 1959 are expected to total about \$50 million against \$39 million in 1958.

### American Cyanamid Forms Development Department

A new department has been formed with the fibers division of American Cyanamid Co. Called the commercial development department, it will develop technical information and products and applications, develop new end-products for commercial in-

production and direct the division's quality control and wear test programs. William G. Fash, formerly manager of the division's home furnishings department, will head the new department. Technical service operations previously covered by a single department, will be divided between the newly formed commercial development unit and existing sales and merchandising departments. Martin B. Friedman of the organic chemicals division has been named marketing counselor to the fibers division.

### Morningstar Research Center Established At Milford, Pa.

Robert P. Morningstar, textile chemical consultant, has announced the establishment of Morningstar Research Center Inc., at Milford, Pa. The Morningstar Research Center will provide consultant services in textile sizings and related chemical fields. Morningstar was the founder of the textile chemical division of Morningstar-Paisley Inc., New York, and headed this division for more than 30 years. He began his business career working in the family company under his father, the late Joseph Morningstar.

### Uster Corp. Conducts Educational Program

Uster Corp., Charlotte, N. C., held an educational program April 7-8 in the main library in Charlotte. The two-day session was attended by about 50 mill men and was aimed primarily at orienting new Uster testing equipment owners in the most efficient applications of the devices. The discussions centered on how to interpret and apply results from various types of testers. Current planning calls for meetings of this type to be held on a quarterly basis.

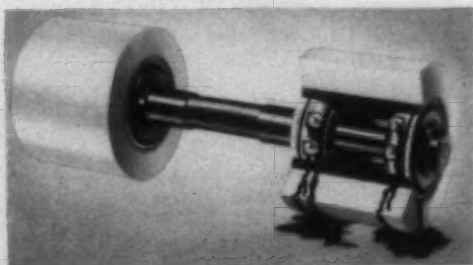
Subjects covered at the meeting were: "Typical Quality Control Program With Uster Instruments"; "Applications of Uster Evenness Tester and Integrator"; "Spectrograph Description and Practical Use"; "Drafting Waves and Fiber Control"; "Uster Automatic Strength Tester"; and "Tension Control and Fiber Cohesion." In addition, much time was devoted to general questioning and group discussions of specific testing problems.

### National Starch Products Is Changing Its Name

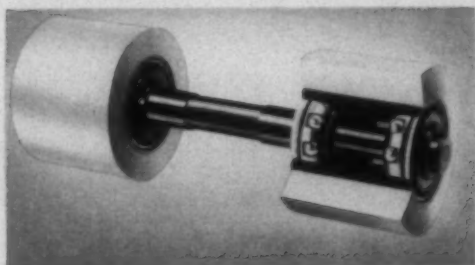
National Starch Products Inc. has announced plans to change its corporate name to National Starch & Chemical Corp., effective May 8, 1959. The proposed change was contained in proxy letters mailed to stockholders for their consideration at the annual meeting on April 28.

In announcing the proposed change, Frank K. Greenwall, chairman, emphasized that it means "no lessening of the company's activities as a leading producer of starch products and specialties for the textile field." He pointed out that as a result of the company's research and development work dating back to the 1930's, it is today one of the two largest producers of vinyl acetate polymers and copolymers in emulsion form

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**NON-FLUID OIL stays where applied**

The adhesive nature of NON-FLUID OIL keeps it in the necks of rolls, top rolls, cylinder bearings and saddles of top rolls and off yarn in process, until it is entirely used up. It reduces wear caused by friction. Power is conserved. Bearings last longer—they run practically without vibration. And most important, clean yarn is assured.

NON-FLUID OIL, because it stays

where applied, does not spread to the face of the rolls or drip from roll necks as ordinary oils do. Top roll damage and oil-stained yarn are completely eliminated. And the savings in lubricant, power and bearing repair which result, often pay the entire cost of the NON-FLUID OIL.

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for the textile industry. He said the change in name to National Starch & Chemical Corp. reflects more accurately the firm's present interests, which, in addition to starch and adhesives, includes synthetic resins.

### General Aniline & Film Reports Record Year

The best earnings in eight years on record sales were reported by the General Aniline & Film Corp. for 1958. Sales for the year set an all time high of \$142,790,000 as compared with \$138,428,000 in 1957. Net profit after taxes totalled \$5,745,000 in 1958, compared with \$5,385,000 in 1957. Earnings per share of common stock were \$7.20 against \$6.75 in the previous year. Both sales and profits of the company's dyestuffs and chemicals division showed increases. The other divisions, Ozalid and Ansco, showed a decrease in either sales or profits.

### Milton Roy Co. Signs Contract With Electronic Instruments

Robert T. Sheen, president of Milton Roy Co., Philadelphia, Pa., has announced a ten-year license agreement between his firm and Electronic Instruments Ltd., Richmond, Surrey, England, for the sale and manufacture of industrial and laboratory pH equipment in the U. S. Milton Roy currently manufactures controlled volume and chemical metering pumps at its Philadelphia plant, and Quantichem colorimetric analyzers at its St. Petersburg, Fla., plant.

Quantichem analyzers are used for determining very dilute concentrations of substances in water. The exclusive license agreement with E.I.L. also includes E.I.L.'s laboratory titrating equipment, portable pH meters, glass electrodes, titrometric analyzers, direct reading fluorimeters, sulfur dioxide gas analyzers and Vibron electrometers.

The equipment is used primarily on critical process controls and in laboratory tests requiring high sensitivity, accuracy and stability. The E.I.L. industrial pH instruments are said to have fully automatic temperature compensation over a range of 0 to 100° C. and are stable within 0.02 pH units over 24 hours and 0.1 pH units indefinitely. Discrimination is  $\pm 0.02$  pH and their accuracy is  $\pm 0.05$  pH. The laboratory pH meter using a Vibron electrometer will read directly to 0.002 pH units and has a full 5" scale deflection of 0.1 pH.

The Fluorimeter gives a direct indication of the concentration of material in a sample causing fluorescence. The range of the instrument spans the equivalent concentration of quinine sulfate of one part in one to 100 million parts.

### Fabronics Corp Distributing New Yarn Filament Counter

Fabronics Corp., Huntington, L. I., N. Y., has announced its appointment as exclusive distributor in the Western Hemisphere for the yarn filament counter, designed and developed by the British Rayon Research Institute. The device is said to automatically count the number of filaments

in an end of yarn in a matter of seconds. A small section of the yarn is inserted into the counter unit of the filament counter and a lever is released. The lever is attached to a knife blade and a transducer. As each filament is cut by the blade, the vibrations are picked up by the transducer and instantaneously counted.

### Record Demand Reported For American Rayon's Cupioni Yarn

American Bemberg announces that the sales of Cupioni rayon yarn have reached a new record, but because of increased demand, Cupioni is still in short supply with the plant running at full capacity. The successive growth of sales and demand is attributed to the consumer demand for imported and textured fabrics such as Douppioni silks from Italy and Japan. According to American Bemberg, Cupioni not only has the slubbed texture and silken feel of the imported yarn but, being a cuprammonium rayon yarn, it offers added practical features of washability, crease resistance, color fastness, and certified wash-and-wear performance, if desired. Cupioni can also take a hot iron set unlike viscose rayons.

Converters are now combining Cupioni with cotton, silk, rayon, acetate, Dacron and Arnel in fabrics to be used for curtains, draperies, upholstery, dresses, blouses, suits, men's sport shirts, and children's clothing in the ready-to-wear field. This Fall a new type of Cupioni will be introduced. It is termed soft spun Cupioni and has a more open filament and thus softer hand.

SINCE 1869

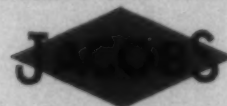
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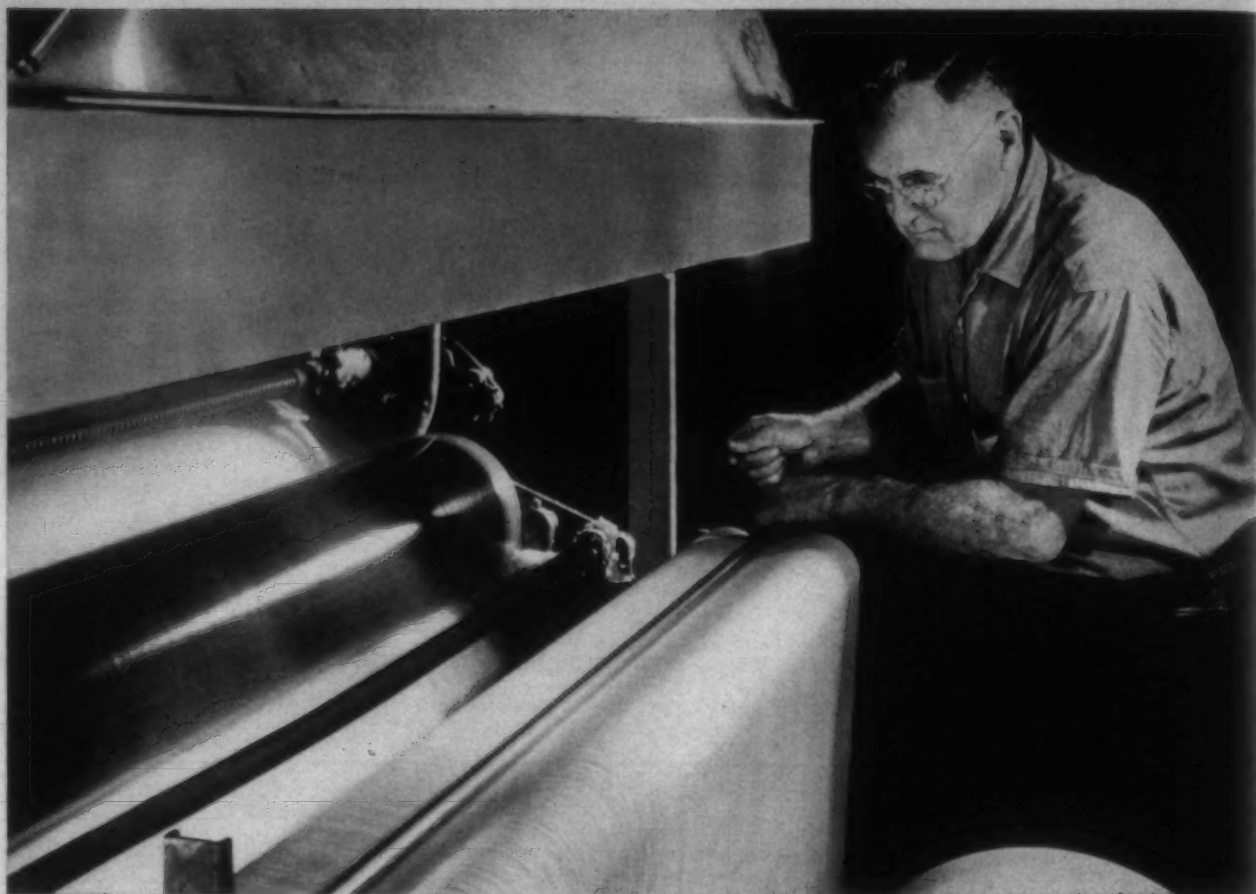
SOUTHERN DIVISION

Charlotte, N. C.

NORTHERN DIVISION

Danielson, Conn.





## How Modern Mills Improve Slashing Operations

Time after time, mills around the country report greatly improved slashing operations with TEN-O-FILM starches. Compatible with most adjuncts and available in a wide range of fluidities, TEN-O-FILM users praise its many unique operating advantages.

TEN-O-FILM is ready to use after cooking thirty minutes. Many mills find need for less plasticizer than with conventional starches. The stability of TEN-O-FILM keeps size usable despite prolonged heating and cooling. Size made with TEN-O-FILM does not congeal or "skin over" at lower-than-normal temperatures... it can be held for reasonable shutdown period without gelation.

TEN-O-FILM offers several additional features including unequalled clarity of film, economy in desizing and dyeing.

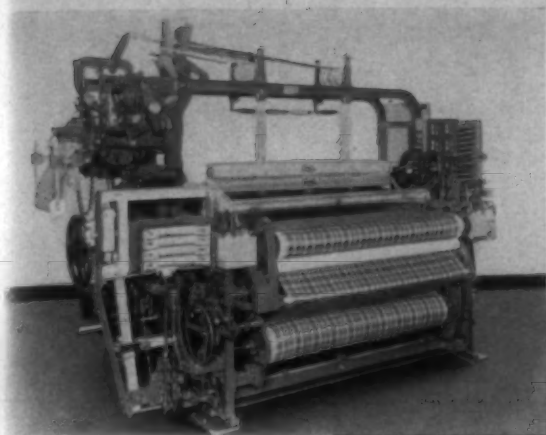
Our technical service group has had wide experience and marked success in adapting this versatile starch to the varied needs of many textile applications. The production advantages and process improvements achieved by TEN-O-FILM can be fitted to your needs by consulting our textile technicians. Contact our nearest sales office or write direct.

# TEN-O-FILM<sup>®</sup> starches

Other fine products for the Textile Industry: EAGLE<sup>®</sup> • FOXHEAD<sup>®</sup>  
CLARO<sup>®</sup> • GLOBE<sup>®</sup> starches • GLOBE<sup>®</sup> and EXCELLO<sup>®</sup> dextrines



CORN PRODUCTS SALES COMPANY 17 BATTERY PLACE, NEW YORK 4, N.Y.



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LOOM... For All Cottons, Spun Rayons and Dress Goods. This is the push-button, automated loom with electric protection, brake and clutch... double link binders... vacuum control... center stop motion with electrical indication... paper indication for dobby.

### M-P...

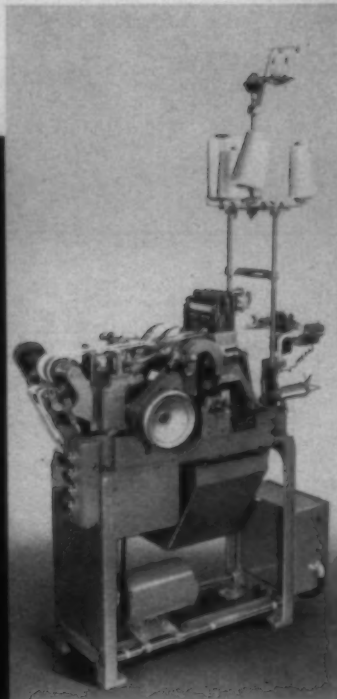
LOOM... The Multi-Purpose Loom for All Types of Fabrics, and all types of yarns... natural or synthetic, spun or filament. Constructed as wanted. Convertible as needed... 4x1, 2x1, 1x1, 2x1 filling mixing. With dobby, head motion, undercam, or jacquard if desired. 36-bobbin rotary magazine, vacuum filling control, scissors thread-cutter, and many other features.



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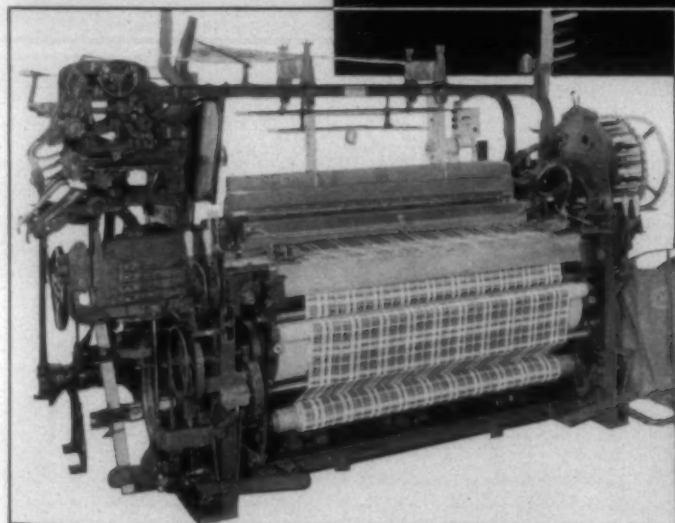
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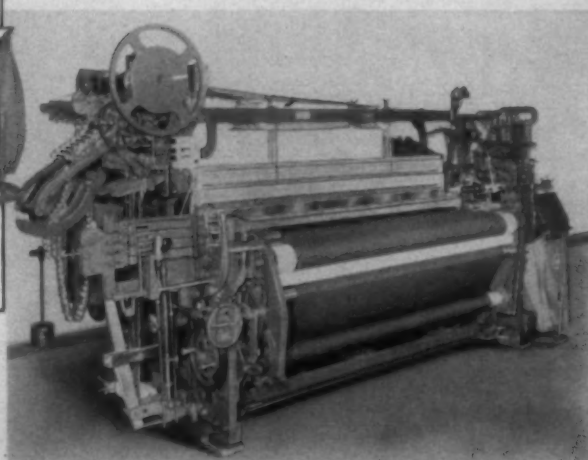
### Narrow Fabric Needle Loom

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# textile bulletin

OL 85

APRIL 1959

NO. 4

A highlight of the tenth annual meeting of the American Cotton Manufacturers Institute at Palm Beach, Fla., last month was the following report on "A Study of Inventories and Profits at Gaffney Mfg. Co." Presented by A. J. Bows and Dr. D. B. Hertz of the Arthur Anderson & Co., independent public accountants, the report stimulated such widespread interest that it is being published here virtually intact. Other highlights of the meeting are also included on the following pages.

## Study at Gaffney Mfg. Co. Confirms

# Minimum Inventory = Maximum Earnings

AS background information for our study at Gaffney (S. C.) Mfg. Co., we decided to make a comparison between 12 "bluechip" textile companies with three "bluechip" companies in other industries. We did this to see if we could find clues as to why the profit picture in the textile industry has been so poor as compared to other industries.

The 12 textile companies which are used in this presentation are all listed and well known companies. As you can see, (Fig. 1) in the year 1957 (the last year where comparable data is available) these 12 companies had sales of about \$2,800,000,000 and as a group they earned about \$77,400,000. One of the industry's principal suppliers, the Du Pont Co., had sales of \$2 billion—\$800 million less than these 12 companies—and yet it made five times

the amount of profit of the 12 textile companies, namely \$397 million.

You will note that the 12 bluechip textile companies made only 2.8% on their sales volume whereas General Motors made 7.6%, Standard Oil made 10.1% and Du Pont made nearly 20% on its sales. The average for the three companies is 9.7%. But the real measure of a company's profitability is its return on the shareholders' investment.

Here (Fig. 2) compare the return on shareholders' investment of the same 12 companies and the same three companies in other industries. You will note that in 1957 the 12 textiles returned only 6.5% on their shareholders' investment whereas the average of the other three companies showed a return of almost 15.7% on their share-

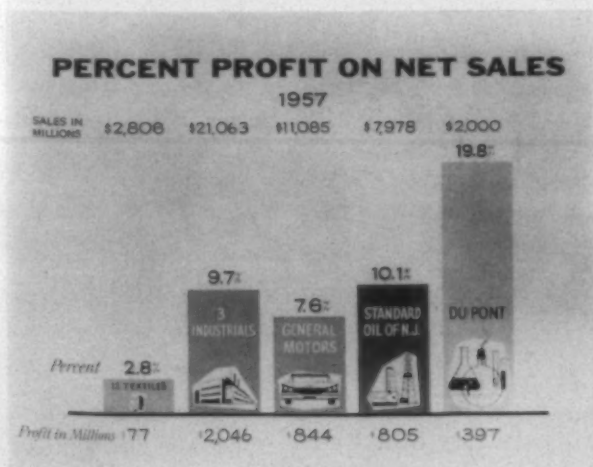


Fig. 1

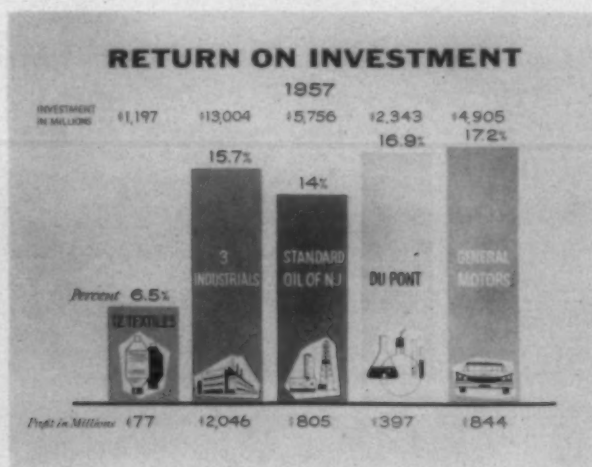


Fig. 2

holders' investment, nearly  $2\frac{1}{2}$  times the return of the textile companies. Incidentally, the return on shareholders' investment for all textile companies reported by the S.E.C. in the first quarter of 1958 hit a low of .9 of 1%. As we will show later, early in 1958 the inventories of print cloth mills hit an all-time high.

Another significant point in comparing companies in the textile industry with companies in other industries is the all important factor of inventories and inventory turnover. You will notice (Fig. 3) that the 12 textile companies (some of the best in the industry) turned their inventories only four times in 1957 in relation to their net sales. The three top industrial companies in the other industries averaged better than a seven times turnover. General Motors with all of its world-wide facilities and its seasonal sales problems (particularly at the end of 1957) turned their inventories better than six times during the year, Du Pont almost eight times and Standard Oil almost nine times

## Industry Objectives

IN his remarks as retiring president of the A. C. M. I., Halbert Jones, Waverly Mills, Laurinburg, N. C., suggested the following needs and opportunities as the most vital for the textile industry:

- (1) A domestic market for textiles which is *without question* protected from a flood of imports from low wage countries;
- (2) Constantly improved fibers and filaments by which the industry can effectively compete against other materials invading textile markets;
- (3) More effective public relations which would permit the textile industry to compare favorably with any segment of the national economy;
- (4) Expanded research at all levels of production and merchandising;
- (5) An increasing supply of trained men and women to overcome tomorrow's more complex responsibilities of management;
- (6) More accurate and more timely means of collecting and disseminating textile economic data to individual mill managements;
- (7) More effective merchandising of textiles;
- (8) More realistic taxation policies and depreciation allowances for capital machinery;
- (9) A closer liaison with foreign producers of textiles that would enable U. S. producers to keep tabs on textile production and policies in foreign nations;
- (10) Active and informed participation in political affairs at local, state and national levels.

To achieve these objectives, he said, the decisions of individual mill executives must result in co-ordinated action beneficial to the industry as a whole. Additional support must be sought from the general public, state governments, Congress and the executive branches of the federal government.



## INVENTORY TURNOVER

(NET SALES IN RELATION TO AVERAGE INVENTORIES)

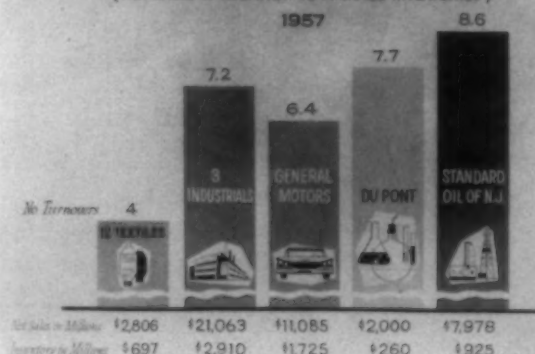


Fig. 3

during 1957. Clearly low inventory levels reduce risks, speed up turnover and improve profits.

The amount of shareholders' investment which the companies had tied up in all inventories as of their 1957 year-end is shown next (Fig. 4). This shows the risk position taken by the textile industry as compared to the others. As you can see, 60% of the stockholders' equity of the 12 textiles was carried in inventory. The aggregate of the other three companies shows that 23% of their stockholders' equity was tied up in inventories. Du Pont, which had the best profit return, is in the enviable position of having only 12% of its invested capital risked in inventories. This illustration shows that even General Motors which had a lot of new models on hand at the end of 1957, with all of its raw materials in its pipelines, had only 35% of its stockholders' equity in inventories.

You are probably wondering if we are fair to compare good companies in the textile industry with these three outstanding companies. We think one good way of understanding your own problems is by comparing yourselves with the best in other industries. This is roughly similar to what you do when you play a round of golf. You are always comparing your scores with par even though you know that you will never play par golf. Perhaps this industry and in particular Gaffney may never achieve Du Pont's operating results but certainly as in golf, it won't hurt their game by trying to swing like Sam Snead.

## RATIO OF INVENTORY TO NET WORTH

EXPRESSED IN PERCENTAGES  
12 TEXTILE COMPANIES AND 3 DIVERSIFIED COMPANIES

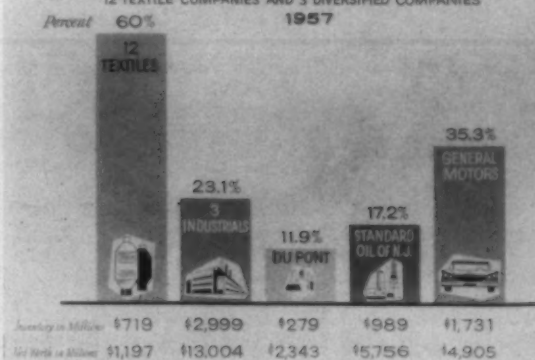


Fig. 4

The purpose of our study at Gaffney Mfg. Co. was to see if we could help that mill make better decisions in its operations to produce better profit. Important profit decisions in a mill involve (1) those of selling goods at a given price, and (2) the amount of cloth to manufacture and to put in inventory.

To show you the importance of these decisions for the print cloth industry you will recall the tremendous inventory build-up that took place in the print cloth industry after the favorable price structure in 1953. You will recall that after this build-up took place that there really have not been any favorable prices since that date. With these problems in mind, we studied the operations at Gaffney to devise systems and procedures in decision-making for management which would provide maximum profit. Our conclusion in this study is that the *maximum* profit comes with a *minimum* of inventory.

**At this time our principal conclusion shows that at Gaffney the odds of making a good profit are most in its favor if it will adopt the policy of not having one unsold yard of cloth in its inventory, if it will take the position that it will not normally manufacture any goods sold or unsold for inventory except to fill current delivery requirements of customers which generally will not require more than two weeks production at the mill, and generally that it should not build inventories for anticipated spot business or for anticipated future shortage in production. It should only carry these inventories if the system, which is based on a study of historical sales and price structure, shows that the odds of an expected profit at the time of sale of the goods are in the company's favor as compared with its cost of carrying the goods and the odds of an expected write-down. This will be a rare case.**

This system in effect permits the mill management each week to determine the odds of any commitment they make on inventory. It is the difference between going to the track at Hialeah and betting on horses' names without knowing the odds of winning as compared to the parimutuel system of knowing instantly what the odds are on a given horse. I am sure not many of you would place bets without knowing what your odds are, but we find that at times Gaffney was doing that and we think they should stop. You are betting without odds when you permit inventory at a mill without a complete knowledge of your forecasted sales and prices tied in with a knowledge of your variable and inventory carrying costs.

I would now like to introduce to you Dr. Hertz, head of our Operations Research Division in our New York office, who has the difficult part of this venture, that is, showing you in more detail just how this system was developed and how it works.

**A**S Mr. Bows has indicated to you, we have had the fascinating and rewarding task of attempting to develop systems which would arm the Gaffney mill management with better facts and methods for making the decisions which are crucial to profits. While our work in operations research can accomplish no miracles and cannot replace management, we did study the process of decision-making

## James A. Chapman



James A. Chapman, president of Inman Mills and the newly elected president of the A.C.M.I., is one member of top management who is as much at home in the mill as he is in the president's office. He spent many years as a superintendent prior to succeeding his father as Inman president in 1936.

A native of Middlesboro, Ky., he has been active in the industry all his adult life. He has served as president of the South Carolina Textile Manufacturers Association and also of the Southern Textile Association.

Mr. Chapman attended public schools in Spartanburg, and graduated from Wofford College in the Class of 1913. He has since served for many years as a trustee of the school, which in 1956 honored him with an honorary degree of doctor of laws. For 39 years he has been an officer of the First Presbyterian Church of Spartanburg, the last 22 as an elder. He was an original trustee of the Spartanburg County Foundation, and in addition to Inman Mills, he is a director of several other business interests.

Mr. Chapman is married to the former Martha Marshall of York, S. C. Three of their five sons are active in the textile industry. One is a lawyer and the youngest recently went into the banking business.

as it related to profits. As a result, we have recommended to management ways of working out decisions which will be most profitable under particular circumstances.

What kind of decisions are we talking about? Well, to operate at all. Gaffney management must decide, virtually each day, what prices to set or accept for orders, and how many looms to schedule on what fabrics. Each of these decisions affects profits; the scheduling of looms affects inventory. Inventory affects prices and carrying charges. In any case, to achieve maximum long run profits—as opposed to lucky strikes—the Gaffney management must control these decisions. They require a system which will tell them on what basis it is most profitable to accept orders, and similarly what to schedule when. We set out to develop such a system in our study. The system which resulted will guide management in determining the mill's unfilled order position and day-to-day inventories. It is developed in such a way as to insure the mill of the best long run position; if used widely it will reduce the swing of prices, inventories and production and help stabilize the industry—although, of course, it in itself cannot directly solve problems of over-capacity.

Our interest is with improved profits over the long run and our recommendations are geared to control inventory and production on that basis. Spur of the moment decisions, which seemingly do not cost anything—because the looms are running, the cotton is on hand and so forth—have a way of pyramiding inventories and costs through their continuing and habit-forming applications.

Without a system that provides sensitivity to trends and a means for control, the manager is apt to make wrong



## J. M. Cheatham



J. M. Cheatham, the A.C.M.I.'s new first vice-president, is president of Dundee Mills, Griffin, Ga. He entered the textile business in 1933 as a trainee at Rushton Cotton Mills, Griffin, transferring to Dundee as a salesman in 1936. He became assistant to the president and then vice-president in 1942. He succeeded his father, John H. Cheatham, as Dundee president in March 1950.

A native of Easley, S. C., Mr. Cheatham attended both Furman University and Georgia Tech. He served in the U. S. Navy during World War II, and is married to the former Elizabeth Mathis of Americus, Ga. They have four children.

In addition to his post at Dundee, he is president and treasurer of Lowell Bleachery and Rushton Cotton Mills, both in Griffin, and president and treasurer of Hartwell Mills, Hartwell and Toccoa, Ga. He also is a director of The State Bank at Griffin, and a trustee of the Georgia Baptist Foundation.

Long prominent in the textile industry, Mr. Cheatham has been chairman of the A.C.M.I.'s foreign affairs committee, was president of the Cotton Manufacturers Association of Georgia, and treasurer of the Textile Education Foundation (of Georgia). He is also a former member of the A.C.M.I. board of directors.

decisions from the standpoint of his own interest. From our observation he often does. It turns out that inventories are often high when sales are low, and low when sales are high.

You will recall the graphs of the inventory-price relationship that Mr. Bows showed you. Can this situation be correct? The answer is obviously no! To correct this at Gaffney we recommended that a system be installed which would determine the costs involved in producing each yard of cloth at a particular time for a particular purpose and the profits which are likely to be attained by accepting each order for future delivery. Then these profits and costs must be balanced against the costs of not producing, or not accepting the order in terms of the likelihood of price changes, missed sales, the trend in sales, and labor considerations.

Inventories are at the heart of the problems we have to deal with. Very few businesses can do without finished goods inventory, but most try to justify them very carefully, because they cost money. Inventory costs build up through direct investment charges, which in these times of tighter and tighter money are going up almost each month; risk costs, such as insurance, obsolescence, space charges and price pressure on the market, not to mention the burden on labor if the inventories are unsoundly high. We believe mill employees would rather be assured of work through the year even if it varied from as little as four to as much as seven days, rather than face a possible two weeks' shutdown. And such a shutdown may be due to inventory alone!

We can determine whether or not inventories justify their costs through a study of their profitability. But first we must define precisely what inventories are. We have determined that the proper definition of inventory at Gaffney is **ALL CLOTH WHICH IS BALED BUT NOT INVOICED**. This is a somewhat different definition than has been used in the past, but essential if the system for determining what inventory to carry is to be realistic. We know of *no* industry (other than textiles) which does *not* use as a working definition for inventory, "finished and uninvoiced goods." The previous definitions used at Gaffney have led to a vagueness of thinking about what *is* inventory, and this in turn has cost money.

Now some inventory is necessary in the ordinary course of production; we don't deliver each yard of cloth as we make it. There may be three looms on a style and the output of all three is required for deliveries; customers may request deferment; we have seconds, shorts, and so forth, which we can keep to a minimum but can't avoid completely. We are going to talk only about the first quality part of this inventory which would be that which we would deliver within a week or so at the latest.

If additional inventory over the necessary part is to be carried, there are various questions we must answer quantitatively. Should we carry inventory for leveling production? That is, we don't have orders for current delivery but we don't want to shut down so we keep going, trusting to get more orders in the future to make up for the hump in our inventories now. This inventory can reach major proportions if the level production concept is followed continually. Whether it should be or not depends on the tangible and intangible costs of shutdown and start-up and the chances of getting the additional business to smooth out that hump in the inventory.

Should we carry inventory to *anticipate* sales for spot delivery in the future? As we shall see, in order to make a net profit gain on these we not only have to anticipate the additional sales, we also have to anticipate a premium price.

Should we carry inventory which anticipates sales in the future which would otherwise be lost at a time when capacity will be filled? This category of inventory is perhaps necessary in certain classes of style or high fashion goods. In any event, the only reason to carry any of these inventories is if *additional* long run profit will accrue to us by doing so.

Our recommendations for answering these questions at Gaffney are to determine the cost and probable profit for each additional unit over that required to meet current deliveries. This is simple enough but many managers seem to overlook the elementary economics involved. Obviously, we must carry inventories to enable the mill to carry on business but our recent study determined that the mill was not justified in carrying inventories to level production since the losses avoided were less than the costs of carrying the inventory. In the case of inventories to obtain spot or peak capacity business the odds definitely must be in your favor before you put any additional yardage in your warehouses.

Note that if a loom week of production is worth \$100 to us at cost, then at carrying charges and interest of 13%, it costs us \$1.00 a month (or \$13 a year) to carry it. At other print cloth mills we have found 20% to be the correct carrying charges and then the cost would be \$1.67 a month.

Our conclusion is that additional inventory over and above that absolutely necessary to meet deliveries is justified only when Gaffney has more than a fighting chance to either get a price difference over the price at which it is refusing future orders; or we know that the mill will definitely be operating at peak capacity at a specific time in the future and will actually lose sales unless it produces the more heavily favored items now. We have developed systems for dealing with the latter problem in mills which deliver high fashion goods directly to cutters during the peak season, but this is hardly the problem in print cloth mills.

The system we have developed for price and production decisions is geared to tell the mill manager whether or not he has this fighting chance—or what the odds are on his making higher profits on one decision as opposed to another. You will understand that we can only deal with the odds—the chances of one move being more successful than another. If we could predict the future with certainty this would hardly be the right platform on which to display our talents—but we make no such pretenses. Our work requires detailed analyses of past history and current trends and then indicate the categories of risk into which various future possibilities might fall.

For example, we might determine that the odds on selling 100 loom weeks of production of the next period at a profit of at least \$5 per loom week are 10 to 1; the odds on selling that same 100 loom weeks for the same period at a profit of at least \$20 per loom week are less than one out of ten. If someone offered a price to yield \$4 profit the manager would be in a better position with this information on odds to profitably exercise judgment as to taking the business offered at the price. So, in developing our systems we deal with the future, but have no crystal ball; we use all the scientific methods available plus good common sense and hard work.

With this as a background, let us turn (Fig. 5) to a bird's eye view of such a system for control of profit in a textile mill, and follow it around the circuit to mill profit. First there are forecasts of business probably available to us period by period into the future at various specific levels of profit. From these forecasts we move to a determination of refusal prices—which determine the level at which business should not be attractive to us. From these prices customer orders develop. This leads to our unfilled order position, and here we decide whether or not the odds are with us if we produce for anything other than current de-

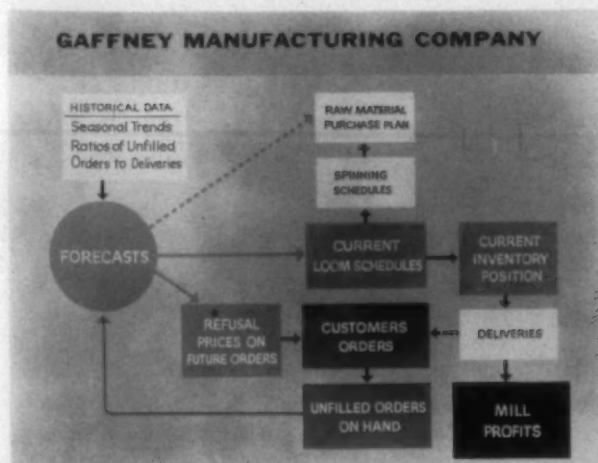


Fig. 5

## HISTORICAL PROFITABILITY PATTERN FOR A LOOM TYPE

Profits Per Loom Week Above Variable Costs	CUMULATIVE PERCENT OF LOOM CAPACITY COMMITTED IN PERIOD AT OR BELOW PROFIT LEVEL											
	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC
\$14	100	100	100	—	—	—	—	100	100	100	100	100
12	90	95	98	100	—	—	—	95	90	90	80	75
10	75	80	85	85	100	—	100	85	75	60	60	55
8	55	70	75	80	85	100	80	75	55	45	40	35
6	35	50	60	65	70	80	65	60	40	35	30	25
4	15	25	30	35	45	50	40	30	20	20	15	10
2	5	10	20	25	30	30	20	10	10	10	0	0
0 (-2)	0	0	10	15	20	20	10	5	0	0	0	0
0 (-4)	0	0	0	10	10	10	0	0	0	0	0	0

Fig. 6

liveries. And if they are not, we shouldn't produce—this calculation determines our current loom production schedule. Our current inventory position, yielding invoiced goods, along with these factors will determine the mill's profit.

Now let us look at some of the individual elements of this system—beginning with forecasting. The heart of all

## R. Dave Hall



R. Dave Hall, the A.C.M.I.'s newly elected second vice-president, began his textile career more than 40 years ago at the age of 14 as a doffer during school vacations. This introduction to the industry led to his first position in two mills in his hometown of Belmont, N. C. Today he is secretary-treasurer of four mills—Climax Spinning Co., Majestic Mfg. Co., Sterling Spinning Co. and Stowe Thread Co.—and president of two others, Belmont Hosiery Mills and Belmont Knitting Co.

In addition, he is a director and member of the executive committee of American & Efrid Mills and the Bank of Belmont. He also holds directorships in Belmont Converting Co., R. S. Dickson & Co. and the Blue Ridge Insurance Co.

Long prominent in North Carolina textile circles, he is a past president of the North Carolina Textile Manufacturers Association; he has served two terms as president of the Combed Yarn Spinners Association; and he is the immediate past president of the North Carolina Textile Foundation. Currently he is a member of the advisory council of the North Carolina Vocational Textile School, and a member of the board of trustees of both Presbyterian Consolidated College and Gaston Memorial Hospital.

Mr. Hall was born near Belmont and was educated in Belmont's elementary and high schools. He is married to the former Mary Howe, also a native of Belmont. They have a son, Robert Davidson Hall Jr., now a student at Davidson College.



forecasting is knowing what happened in the past and how to relate it to the future. In the case of Gaffney we start with the previous patterns of profitability (selling price minus variable cost) month by month or period by period. Thus a typical pattern of such profitability (Fig. 6) shows percentages of total loom capacity of a given type (say 40" looms) committed at a given profit level. This analysis might be the result of several seasons activity, each corrected for the average price level of the given year, as well as for other factors so that the profit per loom week is on a comparable basis. For example, we see that on the average in February our profitability expectation is radically different from that in June.

These historical patterns are then expanded into weekly forecasts of available business (Fig. 7) for the next quarter for various styles. We can tell at a glance how many loom weeks at various profitability levels (1) we have already sold, and (2) we can expect to sell in the coming quarter. In calculating this forecast for the next, or any future period, we use current unfilled orders, current prices, plus the historical table of expectations.

In making a decision as to refusal price we cumulate the available business (Fig. 8). Here we see the forecast data cumulated on the basis of anticipated profit. Thus 50 loom weeks are available at \$14 as before, but 150 are available at more than \$12 (50 plus 100); 300 at more than \$10 and so forth. These same figures have been graphed on a

step chart also showing the loom weeks available (much of it at a loss). Now if we have 800 unsold loom weeks to schedule, we come directly to a refusal price which must yield at least \$5 per loom week. Thus, historical patterns, current business and prices, and available looms have led us directly to a determination of an explicit refusal price which should yield the maximum profit. Note that we can change this period by period, week by week, or even day by day, and that we can deal with many styles and loom types, although the example shown is purposely very simple.

#### FORECAST OF AVAILABLE BUSINESS FOR THE NEXT QUARTER—IN LOOM-WEEKS

PROFIT/LOOMWEEK	STYLE A	STYLE B	STYLE C	STYLE D	TOTAL
\$14	50	—	—	—	50
12	50	50	—	—	100
10	50	100	—	—	150
8	50	100	50	—	200
6	50	100	100	50	300
4	—	100	150	150	400
2	—	—	300	300	600
0	—	—	400	400	800
-2	—	—	400	600	1000

UNFILLED ORDERS ON HAND

Fig. 7

### A. C. M. I. Board of Directors

IN an election of officers at the tenth annual meeting of the A.C.M.I. last month, the following were named to the board of directors for terms expiring in 1962: Charles A. Gibson, B. I. Cotton Mills, Greenville, S. C.; Joseph L. Lanier, West Point (Ga.) Mfg. Co.; Edmon G. Luke, Amerotron Co., New York City; H. C. McKenna, Mission Valley Mills, New Braunfels, Tex.; J. J. Norton Jr., Pacolet Mfg. Co., Gainesville, Ga.; Brackett Parsons, Pepperell Mfg. Co., Boston; William H. Ruffin, Erwin Mills, Durham, N. C.; R. S. Small, Woodside Mills, Greenville, S. C.; and Seabury Stanton, Berkshire Hathaway, Providence, R. I.

H. W. Whitcomb of Fieldcrest Mills, Spray, N. C., was elected to fill the unexpired term of the late Ben R. Rudisill, Carlton Yarn Mills, Cherryville, N. C.

#### Executive Committee

Elected to the executive committee were James A. Chapman, J. M. Cheatham, R. Dave Hall, Seabury Stanton; Edward P. Ix, Frank Ix & Sons, New York City; R. Houston Jewell, Crystal Springs Bleachery, Chickamauga, Ga.; D. H. Morris III, Geneva (Ala.) Cotton Mills; W. E. Reid, Riegel Textile Corp., New York City; Julian Robertson, Erlanger Mills, Salisbury, N. C.; Robert M. Schwarzenbach, Schwarzenbach Huber Co., New York City; and James C. Self, Greenwood (S. C.) Mills.

Robert C. Jackson of Washington was re-elected executive vice-president and Sadler Love of Charlotte was re-elected secretary-treasurer.

#### REFUSAL PRICE BASED ON AVAILABLE LOOMS

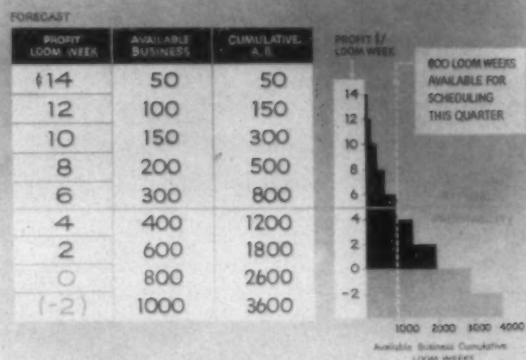


Fig. 8

This same data can be used to determine whether or not to curtail, or produce on the chance of making sales at a profit later. The same kind of information for the next several quarters can be shown (Fig. 9). But suppose we had 2,600 loom weeks unsold as shown, then our refusal price should be no less than breakeven over variable cost. (We may wish to set it higher for various reasons.) But even at zero profit, the question of curtailing can be resolved by looking at our expected business profitability over the next quarter and quarters.

If we were to refuse business in the current period below breakeven and still schedule all looms, we could produce unfilled orders for future delivery. This would as we see result in *future unsold loom capacity*. This unsold capacity would have to be profitable to us, not only above variable



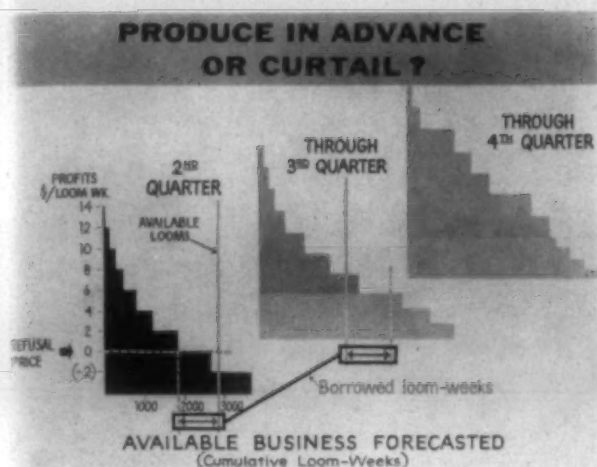


Fig. 9

costs but sufficiently so to justify the cost of carrying the inventory.

In summary, advance production of unfilled orders for distant delivery dates above current requirements *must* be checked for its impact on future unsold loom capacity and usually cannot be justified. If we are going into a period when sales are going to be down you cannot help yourself by producing next quarter's business now.

Now suppose we wish to produce against future unfilled orders in the expectation that we will be able to sell from stock at spot prices and replenish the particular order from later production. What does our most profitable decision depend upon?

The key factors are the average time it will take to work off each unit of inventory, before the required delivery date,

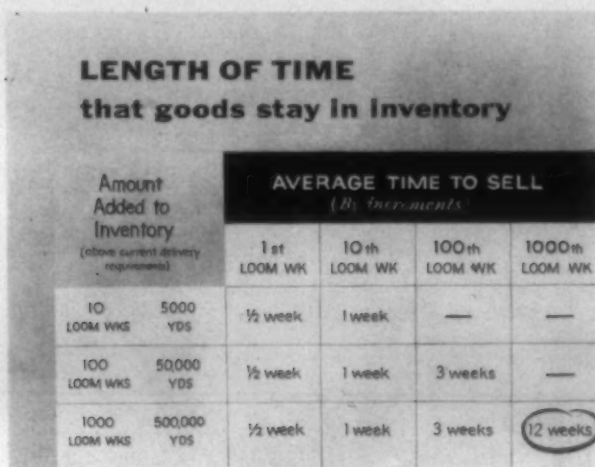


Fig. 10

the cost of carrying the inventory to that time, and the price differential we can expect *above* current refusal price. The length of time a yard of goods can be expected to remain in our inventory depends upon how much we make above current delivery requirements (Fig. 10). Suppose we put ten loom weeks (or say 5,000 yards) into inventory. It may take us only one-half a week to work off the *first* of those ten. If we produce 500,000 yards, the first loom week will go in one-half a week, but the last 500 of those yards may take us 12 weeks on the average to sell. What you see here is a numerical statement of something we know: the more we make above current requirements, the longer it will be with us.

Now, the cost of producing this added inventory must be reflected in profits. We can determine what these



Chapman, Cotton, Thurmond, Cheatham

Special guests at the tenth anniversary meeting of the A.C.M.I. included two distinguished members of the U. S. Senate—Norris Cotton (R., N. H.) and Strom Thurmond (D., S. C.), both of whom served on the recent Pastore Senate Subcommittee. Acting as hosts for the legislators were J. A. Chapman and J. M. Cheatham.

COST OF CARRYING INVENTORY					
ADDITIONAL EXPECTED PROFIT NEEDED TO JUSTIFY INVENTORY					
Amount added to inventory		Inventory Carrying Cost of last loom week			
		10 Loom Weeks	100 Loom Weeks	1000 Loom Weeks	2000 Loom Weeks
10 Loom Weeks	A	\$0.125	\$0.25	\$ —	\$ —
	B	0.19	0.38	—	—
100 Loom Weeks	A	0.125	0.25	0.75	—
	B	0.19	0.38	1.14	—
1000 Loom Weeks	A	0.125	0.25	0.75	3.00
	B	0.19	0.38	1.14	4.56
Carrying Cost =		A- 13% per year or \$0.25 per week			
		B- 20% per year or \$0.38 per week			
based on \$0.20 per yard cost					

Fig. 11

added profits should be for each unit if we add for specific carrying costs—for example 13% and 20% (Fig. 11). The costs mount rapidly for each additional yard we manufacture, and if we put in 1,000 loom weeks now for delivery in the next quarter, we need \$3.00 to \$4.56 premium to cover our costs.

At Gaffney we found that holding goods for spot delivery did not bring a profit. In a typical analysis of spot prices received compared to prices at which orders were being refused for future delivery, we found only a slight differential, and in some cases a loss. The inventory carrying costs were not covered and Gaffney carried less for spot delivery than most mills. As it turns out the less goods inventoried for spot delivery, the firmer the prices for all goods.

## Resolutions

**R**ESOLUTIONS adopted at the final session of the A.C.M.I. convention included: (1) a change in dates for terms of elected A.C.M.I. officers (with current officers serving until September 30, 1960, and subsequent officers serving from October 1 through September 30).

(2) recognition of the service afforded the industry by the recent special subcommittee of the U. S. Interstate and Foreign Commerce Committee;

(3) a recommendation that sufficient funds be appropriated for maximum operation of the Clemson Pilot Plant and the addition of weaving and finishing facilities there;

(4) recommendations to the Secretary of Agriculture concerning Choice "A" cotton under Public Law 85-835.

The latter called for the development of a workable plan to move Choice "A" cotton under P. L. 85-835 through private trade channels rather than into the Commodity Credit Corp. catalog. In the development of such a plan, the resolution urged, the producer must be permitted to market his cotton in his normal manner and the regulations provide that a sample of each bale will be made available to the sales agent for examination by the buyers at the buyers' request. In instances where buyers under option "A" do not quality as authorized sellers, then the cotton must be offered for sale through recognized selling firms.

Our recommendations to the Gaffney management as to their inventory policy may be summed up in the statement: "Carry inventory only when (1) you have to because of current delivery requirements; or (2) systematic calculation provides assurance it will be profitable to do so."

The work involved in this system once installed, is estimated at about two hours a day for a clerk. In the past many mills have based order acceptance and production schedules on the premise that the more looms running the better, without considering the risks of carrying the inventories and the price pressures those inventories bring to bear on the market. We set out to determine how much inventory Gaffney Mills should carry; we conclude that a system to provide maximum profitability is the answer, not one week, two weeks, or any other arbitrary number.

Under the operation of such a system inventories will be low when sales are down, and will at times be under control, so that whatever the economic climate Gaffney will be in the best position to take profitable action.

## N. C. Textile Foundation Meets



William Barnhardt (seated left), newly elected president of the North Carolina Textile Foundation, is seen here with Dr. William Friday, president of the University of North Carolina (seated right), and the other newly-elected officers of the foundation. Standing (left to right) are C. E. Baxter of Greensboro, secretary; Alex Shuford of Hickory, treasurer; and Jesse White of Greensboro, vice-president.

The North Carolina Textile Foundation voted a \$58,280 grant for North Carolina State College for next year at its 16th annual meeting recently at the Gaston Country Club, Gastonia, N. C. The money will go toward research and to supplement the salaries of professors. The group was urged by Dr. Cary H. Bostian, chancellor of N. C. State, to use its influence to persuade the state legislature to appropriate money for the Textile Research Center at Raleigh. Bostian said that no state money goes for research in textiles, the largest industry in the state, while money is appropriated for such things as agricultural research.

William H. Barnhardt, president of Barnhardt Bros. and Barnhardt Elastic Corp., Charlotte, was elected president of the group. Other officers are Halbert Jones, Waverly Mills, vice-president; Jesse White, J. P. Stevens & Co., Greensboro, N. C., vice-president; Charles E. Baxter, secretary; and Alex Shuford, head of the Shuford chain of mills based in Hickory, treasurer.

# **New Trends In Machine And Plant Design**

New trends in machine design and plant construction was the theme of the annual conference of the textile engineering division of the American Society of Mechanical Engineers held March 12 and 13 at The Clemson House, Clemson, S. C. Subjects of various papers included finishing plant design, finishing plant ventilation, radiant heat drying, and operating details of the Draper Corp.'s shuttleless loom, Whitin Machine Works' Piedmont spinning frame, Saco-Lowell Shops' MagneDraft, and Universal Winding Co.'s Unifil loom winder.

## **Finishing Plant Design**

The paper, "Modern Finishing Plant Design," by H. Morgan Rogers, Lockwood-Greene Engineers, Greenville, S. C., was read by J. C. Robinette of the firm in Mr. Rogers' absence. It dealt with the construction of The Kendall Co.'s new finishing plant at Bethune, S. C. Capacity of the plant was given as 120 million yards per year with the possibility of doubling this figure. The building has 325,000 square feet of floor space, has glazed tile walls, is windowless, has evaporative type cooling in manufacturing areas and air-conditioning in office areas, and has all machinery hooded.

Other features of the new finishing plant are that it has truck and railroad loading docks for both receiving and shipping. The flow of materials is U-shaped with a minimum of backtracking. Rolls of greige goods are handled with squeeze-bar equipped fork trucks. The floors in the plant are dustproofed with a  $\frac{3}{4}$ -inch layer of hardened concrete (Kalman) topping. The roof is constructed of rolled section girders and purling, and concrete channel slabs. There is also a fiber glass insulation and vapor seal in the roof. Ceiling clearance in the plant is 22 feet while clearance in the roof of the dyehouse area is 30 feet.

Water for the plant is supplied from a number of 350 to 450-foot wells. The deep wells supply pure water to a  $2\frac{1}{2}$ -million gallon ground reservoir. Well pumps operate on call from a level control in the reservoir.

Effluent from the plant is pumped to a waste lagoon. Precipitate chemicals are used to settle out solids in the effluent. The lagoon is separated into two parts so that one side can be drained for cleaning separately. The liquid flow from the lagoon goes through open field lines to a "Class C" stream. The plant has been in operation for three years and the lagoon has not been drained for cleaning yet.

The Kendall plant is fully sprinklered. Because of the non-combustible roof, fire parapets within the manufac-

turing area are not necessary. Receiving and shipping areas are walled off from the rest of the plant as are the finished fabric warehouse and the office areas.

The plant's machine shop is located almost in the exact center of the building. It is enclosed by a wire cage. The evaporative cooling system keeps machine tools from rusting. Fork trucks which are used in various materials handling jobs are electric and L.P. gas powered.

## **Air Dryers And Curing Ovens**

B. R. Andrews Jr., Andrews-Goodrich Division of J. O. Ross Engineering Corp., New York City, delivered a paper entitled, "Air Dryers and Curing Ovens." During the discussion period questions submitted to Mr. Andrews included:

*Question:* Which is most economical in a conventional drying unit, steam? electricity? gas?

*Answer:* Steam is the most economical if it is available in sufficient quantities. Natural gas is becoming more and more available and some plants will find this most economical if the stand-by loss is eliminated. Electrical means of drying is the most expensive.

*Question:* What is the optimum humidity content for cotton fabric tenter?

*Answer:* At over 300°, around 1,000 grains per pound is about the best. At below 300° the amount would be more than 1,000 grains per pound.

*Question:* What about the use of super-heated steam, air free, as a drying medium?

*Answer:* This method is used for goods that have to be heated very quickly. It is not a general application.

*Question:* How do you control air volume in the tenter?

*Answer:* Air volume may be controlled with the use of dampers. The fan runs at a constant speed and air volume is varied by opening or closing dampers. The damper may be either in the in-take of the fan, or at the discharge nozzle of the fan.

*Question:* What ways can be used to control tenter wrinkles other than control of air velocity as it hits the fabric?

*Answer:* This should be taken care of in the original design of the equipment and is done with roll spacing and size.

*Question:* You mentioned before that cloth is degraded by overheating in the tenter. Will you comment further on this?

*Answer:* Overheating weakens the fiber and therefore makes the cloth weaker. Overheating also changes the color



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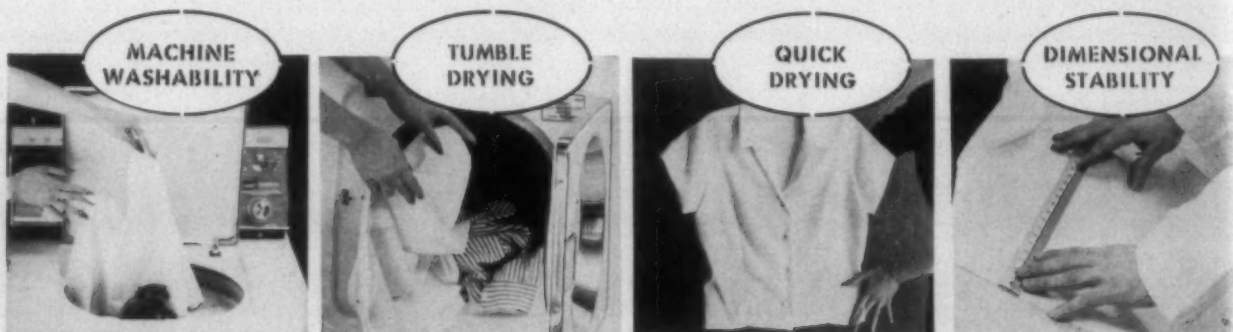
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of dyes on cotton fabric to a degree great enough to be noticeable. Wool is affected much more radically than cotton.

Other speakers at the first day's session of the conference included Holmes W. Frederick, J. E. Sirrine Co., Greenville, "Trends In Finishing Plant Ventilation;" and R. B. Chipman, General Electric Co., Lamp Division, Charlotte, N. C., "Radiant Heat Drying."

#### Piedmont Spinning Frame

Speaking on "Modern Spinning—The Piedmont Frame," Carl Brandt, Whitin Machine Works, Whitinsville, Mass., described the frame as being "new, novel and unique." New features cited were: (1) 27-inch over-all width; (2) covered individual spindle drive from side drive shafts; (3) straight line spinning; (4) traverses up to 12 inches; and (5) scientific balloon control ring application. He said all gearing in the head end and new builder motion is enclosed. The pneumatic waste removal unit is integrated into the machine design and a new arrangement is provided to disperse heat generated by the motor enclosed in the foot end.

The Piedmont uses the Whitin Super Draft two-apron drafting system and Unitrol top arm weighting. The equipment can be made in either 3½ or 4-inch gauge. Minimum difference between ring diameter and gauge is normally one inch, he said.

An important feature of the new frame was said by Mr. Brandt to be the new builder motion. Cam action is transmitted into precisely controlled motions for the ring rails and balloon control rings. The new builder provides simplified adjustments and operation, and precise pick selection. He said that excellent winding-off characteristics are gotten with the filling wind, without sloughing at high speeds, using the new builder.

Mr. Brandt listed the following as mill runs for the Piedmont frame.

Count	Twist Multiple	Ring (inches)	Traverse (inches)	Spindle Speed (r.p.m.)	Front Roll Speed (r.p.m.)
6	3.25	3½	12	5,800	232
15	4.42	2¾	12	10,760	200
22	3.80	—	12	10,000	178
32 (combed)	4.25	2¼	12	12,900	173
60 (combed)	4.40	2¼	12	11,000	105

#### Unifil Loom Winder

Harry R. Kennedy, Universal Winding Co., delivered a paper on his company's Unifil loom winder. He said the Unifil automates: (1) quilling; (2) filling hauling whether pin-boards, trucks or boxes are used; (3) battery filling; (4) taking-up quills; and (5) quill stripping. The elimination of quill handling saves a lot of harsh treatment and broken quills.

Pinpointing savings, other than the more obvious ones, made by the Simpsonville Plant of Woodside Mills, Greenville, Mr. Kennedy said the installation of the units on 536 looms had freed 6,250 square feet of floor space. This space was previously used for quillers. The mill is going to install 146 additional looms in this space. Total production will be increased and fixed overhead will be reduced by 20%.

The Simpsonville Plant had to have some 300 quills per loom before the installation of Unifil. After the installa-



tion only 11 quills per loom are needed. Money savings are substantial for this item.

Another advantage found at the mill is that quill replacement is only about 20% as great as it used to be before the Unifil installation. There are also fewer bobbins on the floor and under looms. Better housekeeping and safety results,

Unifil also reduces the time necessary to change looms from one style to another. Mr. Kennedy said that bobbin diameter for various filling numbers can be set in about a minute.

He said that Unifil improves quality of the fabric be-

cause of the controlled bunch, winding speed and tension. Another reason for quality improvement is that the same quills stay with the loom. He said that cloth made on Unifil equipped looms has fewer jerk-ins and has proved to be cleaner all along because of reduced handling and less chance of getting grease or oil on the filling.

Another not-so-obvious advantage of Unifil is reduced shifting of personnel and work assignments when styles are changed from heavy to light or vice-versa. Mr. Kennedy said this is possible because of large cones of filling and the automation of jobs. Personnel change is reduced to about 10% of what it would normally be.

#### PIEDMONT S.T.A. MEMBERS DISCUSS

## Quality Control

How  
Why  
Who ?

THE Piedmont Division of the Southern Textile Association held its Spring meeting March 14 in Charlotte, N. C., at the Johnston Memorial Y.M.C.A. The topic selected for the meeting was "Quality Control, Testing Equipment, and Techniques In Testing." The program consisted of short talks by a group of panelists and was chairmanned by W. A. (Luke) Thomason, Thomason Textile Service, Charlotte. The speakers were (in order of their appearance): Gus Guggenheim, TEXTILE BULLETIN, Charlotte; Hugh Neill, Spinlab, Knoxville, Tenn.; Harry Kennedy, Universal Winding Co., Charlotte; Vernon Brockman, Uster Corp., Charlotte; and James M. Barnes, Kendall Research Laboratories, Paw Creek, N. C.

Guggenheim's talk, "Successful Quality Control," pointed out that "the control is not put in 'quality control' until definite action follows the testing of samples." He said that even the most well-planned quality control program could not succeed unless a vigorous follow-up program is in effect. He said there were five main elements in a quality control program: (1) take sample; (2) test sample; (3) interpret results; (4) fix machine; and (5) re-test sample.

"Each of these elements must be considered of equal importance," Guggenheim said. "If any one of them is slighted, or neglected completely, the whole operation is a bust." He said that even if the laboratory is full of well-designed, impressive looking, and functional electronic whiz-bangs, the program of quality control could not work unless all five elements were properly attended to.

Hugh Neill described various instruments built by Spinlab for testing cotton fibers. He said the most important new development by his company has been the push-button Digital Fibrograph. The device is a replacement for the model 163 Servo-Fibrograph and scans parallel fibers down to 1/8-inch to determine fiber properties related to length. The push-button controls speed up the testing operation and results are presented on digital counters. The necessity of drawing tangents on a curve is eliminated. The Digital Fibrograph can be operated by an inexperienced operator.

Neill also showed the Port-Ar, or portable arealometer. The device measures the fineness of cotton. He said the

unit was designed on two premises: (1) it must be portable; and (2) it must use a larger sample so that it would not be necessary to do a lot of blending before testing. Sample weight is not critical with the instrument. "You can grab up five to ten grams of cotton, put it in the instrument and get a determination." The Port-Ar is used extensively, he said, by mills for blending purposes. Bale-lay down are arranged according to fineness readings made with the instrument.

Harry Kennedy, Universal Winding Co., told the meeting that the current drive in mills for higher speeds, better quality and lower costs have made precision and skill at every point of production a requirement. He said that slow and inaccurate methods of testing could no longer be tolerated.

It is most important to get test information into "action" hands, he said, "into the hands of someone who is going to actually fix the card or draw frame." The fixer's self-respect would be increased if "he can use a piece of test equipment, get the results and make the corrections." In this case, he said, the instruments would have to be set-up for "go-no go" limits.

#### Controlled Humidity

Kennedy said the Brush portable uniformity meter fits this bill, more or less. "It is not necessary to operate this piece of equipment in a controlled temperature or humidity to get an accurate reading. The controls may be set for a definite standard and dial settings are provided. The people on the job can use the equipment." Different weight sliver on cards and drawing require different settings. The portable uniformity meter is supplied with a complete set of heads that can be used on machinery from carding through spinning.

Troubleshooting at a particular delivery is accomplished with an oscillograph. He said that the best feature of the

instrument is that it is mounted "right on the delivery where you are testing and working. Any change that is made on this machine will be reflected immediately on the meter." As an example of the tester's value, he gave the timing of a comb. After putting the measuring head right on the comb and starting to change the timing, he explained, "if the per cent non-uniformity goes up you know you are going in the wrong direction. Right there, while you are working on it, you can get your results."

Vernon Brockman talked about the various instruments sold by Uster Corp. including the Varimeter, evenness tester Spectrograph, Tension Recordograph, and cohesion tester. The new cohesion tester was developed by West Point (Ga.) Mfg. Co. It measured the dynamic forces that take place while a sample is being drafted. Brockman pointed out that the instrument can solve "the problem of just how much draft to put in the breaker zone, intermediate zone or finisher zone. You actually set a desired roll setting on this instrument. Put your sliver or roving through the machine and the drafting information is recorded on the chart coming out of the interconnected Tension Recordograph. By maneuvering the rolls an optimum setting can be found."

### Basic Weave Room Quality

Kennedy resumed the speaker's table to talk about basic weave room quality. He posed several provocative questions. "Are the people in your weave room really quality conscious? Or are they working in a state of frustration, with a lack of knowledge and a day-to-day indifference doing only the minimum requirements? Do your people have the ability, the training, and the incentive to give your weave room the proper balance of quality, cost and production?"

He said there is a need for not only progressive management, market analysis, research and automation but also dedicated people who have the ability, knowledge and desire to perform their tasks in a manner producing more per man-hour and with superior quality if the textile indus-

try is to meet the challenge thrown at it by present market conditions and foreign competition. "Quality in the weave room is most important," he said, "because it is here that the product of every other department is brought together to make the finished product."

Some of the defects cited by Kennedy were filling bands, wavy cloth, broken picks, mixed filling, mispicks, kinky filling and jerk-ins. Warp defects described are misdraws, mixed ends, ends out, slack selvage, tight selvages, reed marks, center fork marks, set marks, and grease and oil marks.

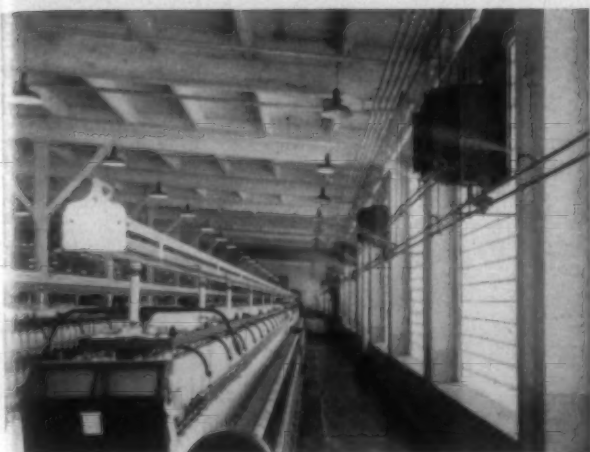
James M. Barnes said it "is easy to become so enamored with the tools and the instruments of obtaining quality control information that you forget it is the information, itself, that is the important thing." He said in any line organization in the textile industry, and in other industries, quality control fits in anywhere. "You can have machine operators doing control work. On the other hand you also find vice-presidents doing control work. Where control fits best will vary from mill-to-mill. It will depend on the type of control desired and also on the personalities and backgrounds of the people in the mill."

He said each mill must make its own choice about where control fits. It must be tailored to specific conditions around the mill. "It is awfully important that this choice be made and not just allowed to grow." Areas of authority and responsibility should be clearly defined. "It will be a profitable exercise to review your own organization and ask yourself three questions: (1) 'Are the organizational lines clearly defined? (2) Is authority to take action coupled with responsibility for that action? (3) If they are clearly defined, is it the best it could be? Could you do something better?'"

Emphasizing that each mill must make its own choice, Barnes concluded, "It is my feeling the most effective relationship between supervisors and control is usually one where the supervisor can use quality control as a tool to aid in the running of the mill. I believe that the running of the mill should be done by the supervisors and not the quality control department."



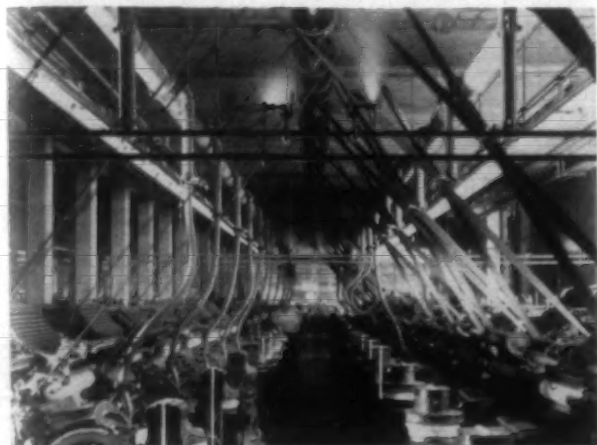
M. L. Brackett, Highland Park Mfg. Co., Charlotte, N. C., selected W. A. (Luke) Thomason, Thomason Textile Service, Charlotte, to be program chairman for the Spring meeting of the Piedmont Division of the S.T.A. Speakers on the program were: (left to right) Gus Guggenheim, *Textile Bulletin*, Charlotte; Hugh Neill, Spinlab, Knoxville, Tenn.; James M. Barnes, The Kendall Research Laboratories, Paw Creek, N. C.; Harry Kennedy, Universal Winding Co., Charlotte; Vernon Brockman, Uster Corp., Charlotte; Thomason; and Brackett.



WILLIMANTIC, CONN. — Humidification with cooling was the choice in this mill.



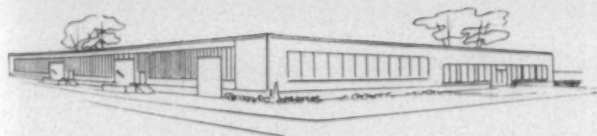
DALTON, GA. — Amco Humidification with cooling was preferred for spinning operation at Dalton, too.



NEWNAN, GA. — Amco Humidification alone was selected for carding room at Newnan.



CLOVER, S. C. — Humidification alone is also used in the spinning room here.



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# Textile Quality Control Association Discusses

- teaching quality control
- humidification and quality control
- quality control in resin finishing
- recommended blending practices
- where to test quality

**T**EACHING quality, effect of humidification on quality, quality requirements for resin finishing, recommended blending practices, and where to test quality were the main discussion points at the March 26-27 Spring meeting of the Textile Quality Control Association. The meeting was held at North Carolina State College School of Textiles, Raleigh.

"Teaching Quality Control To Mill Personnel" was the subject of Paul D. Brown, Virginia Mills Inc. Pointing out that the greatest asset the textile industry has is its people, Brown said, "in-plant training and education of people has not been given the attention and time such a program deserves." Upgrading our people through education and training will create an atmosphere of progressiveness and help the textile industry which is (or soon will be) feeling the pinch of competition in the labor market.

"In textiles we usually wait until some young prospect 'sells himself' to us as having good potential for managerial responsibilities," he said. "In fact, it is up to him to take the initiative in self-improvement through correspondence courses, reading trade journals and other means. He gets little or no training until he has distinguished himself from the group.

"By contrast, some other industries consider the potential, inherent in all young blood, once he has passed their selection requirements for employment and immediately take the initiative, through education, to cultivate the potential." Brown described the establishment of a vocational training school in his home county and gave an outline of a quality control course he is teaching in this school.

R. B. Crosland, The Bahnson Co., delivered a paper, "Humidification In Quality Control," in which he said there are many ways humidification could contribute toward better quality. Because heat loads in spinning have gone up greatly in recent years, Crosland said it is possible the mill's old humidification system does not have adequate capacity. Maintenance of the system, no matter how basic it is, is a most important requirement. He pointed out that humidifier heads *must be kept clean*.

Keeping atomizer air oil-free is one way to avoid wetting-down. Proper aftercoolers must be in place on compressors. No matter what type are used, he said, atomizers should be bench-adjusted using rate-of-flow meters. Atomizers can't be successfully adjusted on the lines using just a wrench.

The effectiveness of a humidification system can be determined much more precisely with a portable recorder than by the supervisor's sense of feel, he said. The portable recorder is moved from place-to-place throughout an area in making this determination.

A new idea proposed by Crosland was inducing a controlled amount of moisture into bales of cotton before they were put in the opening room. Stock weight would always be constant at the beginning of processing in this manner, he said. Because of this, processing controls would be easier for the mill to maintain.

## Resin Finishing

"Quality Requirements Of Cotton Greige Goods For Resin Finishing" was the subject of Sydney M. Cone Jr., Cone Mills Corp. Questions asked Cone were:

*Question:* Should entirely special fabrics be designed for resin finishing rather than use the old styles?

*Answer:* Complete redesign of the fabric is not the whole answer. It is true that some fabrics simply won't take resin finishes as well as others.

*Question:* Does odor treatment affect fabric strength?

*Answer:* No, not any more. The problems with odor treatment have been licked and this process is under control.



George H. Bass, Swift Mfg. Co., Columbus, Ga., was chairman of the first technical session at the Textile Quality Control Association's Spring meeting. Other participants of the session are (standing, left to right) Paul D. Brown, Virginia Mills, Burlington, N. C.; and Bass; (seated, left to right) R. B. Crosland, The Bahnson Co., Winston-Salem, N. C.; John T. White, James Hunter Inc., Greenville, S. C.; and Sydney M. Cone Jr., Cone Mills Corp., Greensboro, N. C.

**Question:** Do you expect any work on raw stock applications of resins?

**Answer:** No, I do not think this will happen. The added resiliency given to fibers by resin treatment would change completely its processing characteristics. It would probably cause the necessity of redesign of the whole mill.

"Recommended Blending Practices" was the title of a paper given by John T. White, James Hunter Inc. He said the mill's greatest potential for savings today may well be the raw stock. "The goal should be an effort to deliver a consistent quality level from whatever fiber characteristics are available with a minimum of stock 'sweetening.'"

He pointed out three possible general approaches to this saving:

(1) buy raw stock within the narrowest possible specification limitations;

(2) preblend carload lots on a series of conventional volumetric hoppers whose combined output is automatically distributed to another series of volumetric hoppers;

(3) install a series of weighing type feeders that build an exact sandwich on a horizontal conveyor ahead of a mechanical mixer.

A fourth possibility would be a combination of these three.

White gave the results of a mill test run on combed yarns using a Hunter Fiber Meter blending line. Bale lay-down for regular run stock behind the Fiber Meter line was four bales of California irrigated at No. 1; eight bales of Texas irrigated at Nos. 2 and 3; and 13 bales of Memphis rain grown at Nos. 4, 5 and 6.

### Blow-Up Feared

In a comparative test, a typical 25-bale mix was laid down behind the Fiber Meters strictly by separate 0.5 Micronaire groups. Raw cotton came from the same three territories and had a Micronaire range from 3.5 to 5.5. Territories were mixed behind hoppers when it would have been preferred to limit to one territory where the Micronaire permitted to allay management fears of a "blow-up."

"Laps from each lay down system on the Fiber Meters (hereafter referred to as 'Micronaire' and 'territory') were processed through the same frames to the same 25 spindles on each of three spinning frames running 25s yarn." Results of the test was reported by White to be:

(1) A reduction in actual break C.V. on each frame and from frame-to-frame with the actual break for Micronaire being 102 to 104 and 99 to 106 for territory;

(2) The average unadjusted break of the 75 bobbins on the Micronaire lay down system was higher than the unadjusted ten bobbin daily average for the previous 20 or 25 days.

He said that the significant thing about the test was that the results were predicted.

Results of such a short test are not conclusive, however, White pointed out. They are merely significant and point to the ultimate possibilities. The weighing type feeder, he concluded, is a tool for more precise control but it is essential that it be used properly.

In the paper, "Analysis of Short-Term Unevenness," W. S. Smith, West Point (Ga.) Mfg. Co., reported on two surveys conducted by his company, in 1955 and again in 1957. The surveys were aimed at comparing unevenness at six of the company's cotton mills. Data taken was from a range of raw stock mixes both within mills and among

mills. There were differences in sliver weights, roving hanks and yarn counts.

Data from each mill followed a straight-line relationship when plotted on logarithmic graph paper. The per cent unevenness was plotted along the Y-axis and count was plotted along the X-axis. A mathematical equation was calculated for each mill and also for a company average based on the six mills.

Smith said there were a number of interesting facts about the graph. "(1) All lines are nearly parallel. This indicates a general relationship between yarn count and C.V. (2) The relationship includes finisher drawing and extends through yarns. Continuity suggests a correlation between unevenness and stock size irrespective of process. (3) Unevenness in finisher drawing seems to determine the level of unevenness at subsequent processes. Differences among mills is explained by differences in raw stock quality and differences in processing up to and including drawing." C.V. value tables for any cotton count were calculated by using the equation for the company average. They were designated as West Point standards with the word "standards" implying a bench mark or reference value. Sliver C.V.'s are projections transposed to an appropriate level obtained from known data. Smith said the company compares mills in terms of their respective index or ratio to the standard:

$$\frac{\text{Observed C.V.}}{\text{Standard C.V.}} \times 100\% = \text{Index \%}$$

Average unevenness of one mill may have a ratio of 110 or 10% higher than the company average. Another mill's average unevenness may have a ratio of 90 or 10% lower than the company average.

### Practical Applications

Smith said practical applications are:

(1) Relative unevenness of any observed C.V. value is determined by comparison with standard for the same count.

(2) Observed C.V. values for two or more counts can



Shown here (standing) is the second technical session chairman, Lane C. Drye. Speakers at the session were: (left to right) W. S. Smith, West Point (Ga.) Mfg. Co.; James Wheeler, Canton (Ga.) Cotton Mills; and Vernon Hill, North Carolina Department of Agriculture, Cotton Laboratory.

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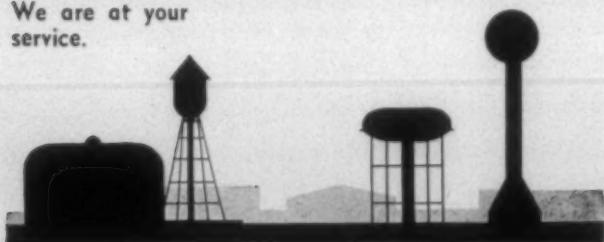
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be compared by determining their respective index or per cent deviation from standard.

Example:

Count	Observed C.V.	Standard C.V.	Index %
1.00	8.50	8.29	102.5
12.00	19.50	18.78	103.8

(3) Two or more raw stocks or mills can be compared.

Example:

### MILL A STOCK X

	Stock Size	Observed C.V.	Standard C.V.	Index %
F.D.	65 grains	4.05	4.22	96
Roving	.60 hank	6.85	7.01	98
Yarn	9.50s	16.90	17.39	97
	14.00s	19.50	19.76	99

Average 97.5

### MILL B STOCK Y

	Stock Size	Observed C.V.	Standard C.V.	Index %
F.D.	60 grains	4.42	4.33	102
Roving	1.00 hank	8.63	8.29	104
Yarn	17.00s	21.50	21.06	102
	20.00s	23.—	22.22	103

Average 102.75

(4) With average index known, C.V. value for any count can be predicted.

Example:

Stock Size	Standard C.V.	Index	Predicted C.V.
22.00s	22.92	97	22.30

## Drafting Waves

Smith also described some experimentation with fiber distribution in yarn which directed attention to drafting waves as the primary cause of unevenness in yarn. Drafting waves are associated with floatation of short fibers between nips of drafting rolls or lack of fiber control. The removal of short fiber was said to result in superior uniformity of combed yarns over carded yarns. He said that research efforts should be directed toward correlating yarn unevenness with fiber length irregularity. Cotton with a high percentage of short fibers would be expected to produce irregular carded yarns.

Trouble caused by short fibers in cotton was also cited by Vernon Hill, North Carolina Department of Agriculture, Cotton Laboratory, in his paper, "Testing Of Raw Cotton For Optimum Mill Processing." Recently conducted tests, he said, have shown that "approximately 64% of the variation in ends down in spinning 30s yarn and 86% in spinning 40s yarn was accounted for by variation in the proportion of short fibers (less than one-half inch). On the average, an increase of 1% in short fibers was associated with an increase of 13 ends-down in spinning 30s yarn and about 60 in spinning 40s."

Hill pointed out that short fibers also had a great influence on yarn strength. Variations among the test lots for this factor accounted for or were associated with 80 to 90% of the variation in break factor of test yarns.

"The next question which logically arises centers around the cause or causes of short fibers other than those of a genetic nature," he said. "It was found that 42% of the variation in short fibers was associated with variations in





Lane C. Drye, Linn-Corriher Mills, Landis, N. C., has been elected to the presidency of the Textile Quality Control Association for the coming year. He is shown being congratulated by Ray Gordon (left), The Kendall Research Laboratories, Paw Creek, N. C., the retiring president.

lint moisture content at the time of ginning. Although this correlation is quite high, findings also suggest that other factors are important in accounting for the remaining 58%.

"Overhead cleaning machinery had no significant effect on the amount of short fibers in the ginned lint but the latent effect of this equipment was shown by a highly significant increase in short fibers in the cotton at subsequent stages of processing. Samples taken at the card showed that elaborate overhead equipment increased short fibers slightly more than one percentage point as compared with an overhead set-up which bypassed the burr and one seven-cylinder cleaner when lint moisture content was relatively high.

"The lots of cottons subjected to the most extreme drying and cleaning conditions and which yielded the highest ends-downs and weakest yarn also had the highest number of loom stops." About 45% of the variation in warp stops and over 95% of the variation in filling stops was associated with corresponding variations in ends-down, he said.

### Alabama Textile Education Group Meets

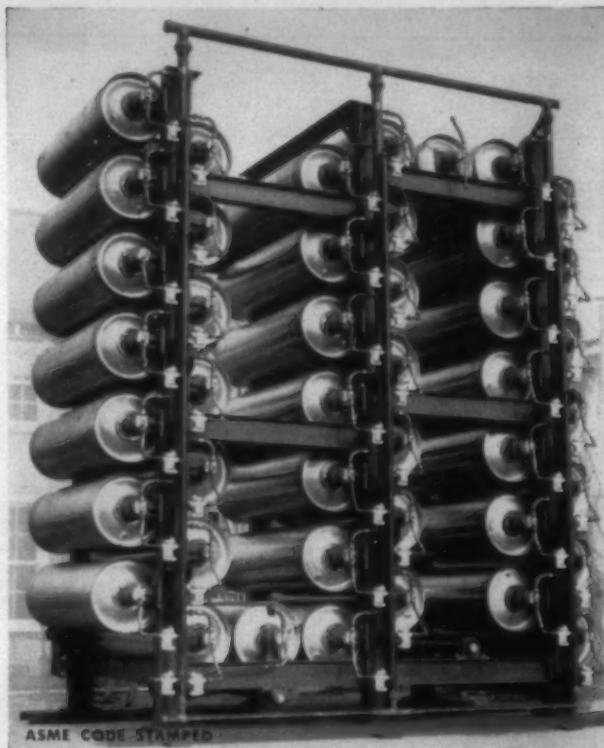
E. C. Gwaltney, vice-president of Russell Mfg. Co., Alexander City, Ala., was chosen to head the Alabama Textile Education Foundation at that group's meeting April 8 in Biloxi, Miss. Other officers elected are: T. Holmes Floyd, vice-president of Opelika Mfg. Corp., vice-president; Dwight Wilhelm, executive vice-president of the Alabama Textile Manufacturers Association, secretary; and Homer Carter, general manager of Pepperell Mfg. Co., treasurer.

D. H. Morris III, retiring president, who has headed the group for the past two years, told the group that the need for trained young men in the textile industry is greater than ever before. Since its beginning six years ago, the foundation has raised and earned \$76,711. It has spent \$58,290 in supporting the Textile School at Auburn. Earl Heard Sr., vice-president of West Point (Ga.) Mfg. Co., said that there is a need for more research at the textile school and said that plans are underway for increasing research.

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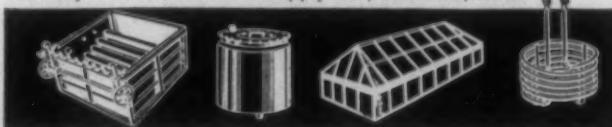
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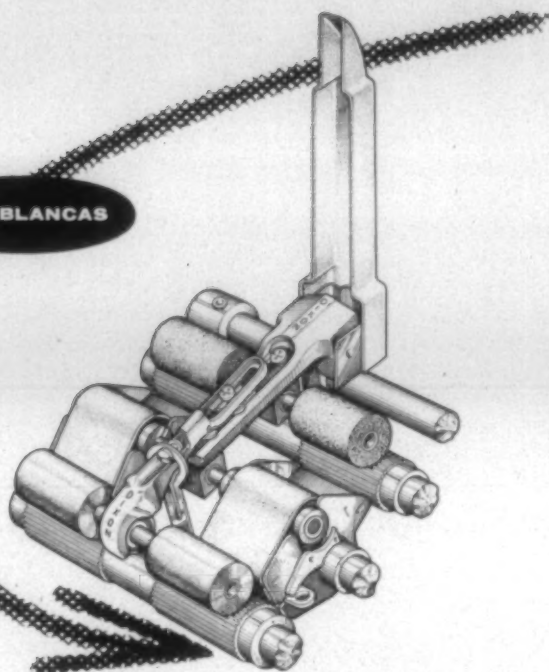
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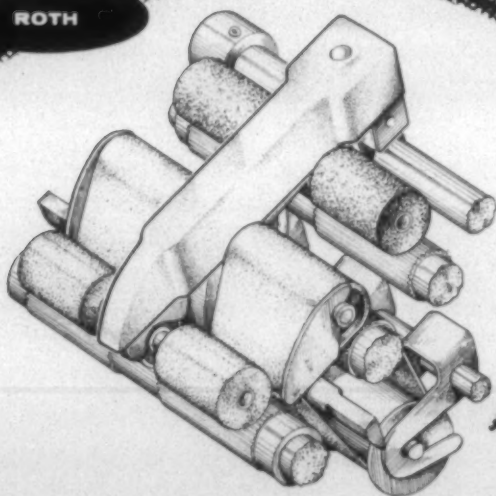


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Monroe Cotton Mills	18,756	Double Apron Casablancas
Columbus Mfg. Co.	17,000	Double Apron Roth
Crown Cotton Mills	15,232	Double Apron Roth & Casablancas
Deering Milliken	121,500	Double Apron Roth

# THE ADVANTAGES OF MAGNETIC DRAFTING

a report  
from Saco-Lowell

By ROBERT JONES\*

**W**EIGHTING the top rolls of a drafting element by means of magnetic force offers the ultimate in simplicity, cleanliness and effectiveness. For many years textile machinery designers have been working toward these goals but most of their efforts have been devoted to the improvement of mechanical weighting means.

The first step in the improvement was the substitution of springs for the dead weights. As far back as 1880, one Patrick C. Dawson of Providence, R. I., was granted a patent on a spring pressure device for forcing the top rolls against the steel rolls. A much more recent development was the use of overarm or top arm weighting for the top rolls. In 1941, W. Stahlecker, at that time an S.K.F. employee, patented a guiding and weighting arrangement for top rolls which eliminated cap bars and provided for the self-alignment of the top rolls with the bottom rolls, known as the Pendelwalzen. This top arm not only applied pressure to the top rolls but also acted as a positioning means for them. The earlier versions of this development depended upon stirrups connecting the outer end of the top arm to weighting means below the roller beam.

Only very recently have some of the machinery builders developed newer versions of the top arm which incorporate spring pressure units within the housing of the arm itself, thus cleaning up the roller beam considerably. While these newest top arms are not unpleasant to the eye, they are far more complicated than their outward appearance would indicate. Often it requires 30 or more separate pieces to create the relatively simple looking device which weights three lines of top rolls. While it is true that improved materials and methods of manufacture have helped to keep the cost of these weighting units within reasonable bounds, it cannot be denied that they are far more complicated than the dead-weighted systems which they replaced.

### Hydraulic Weighting

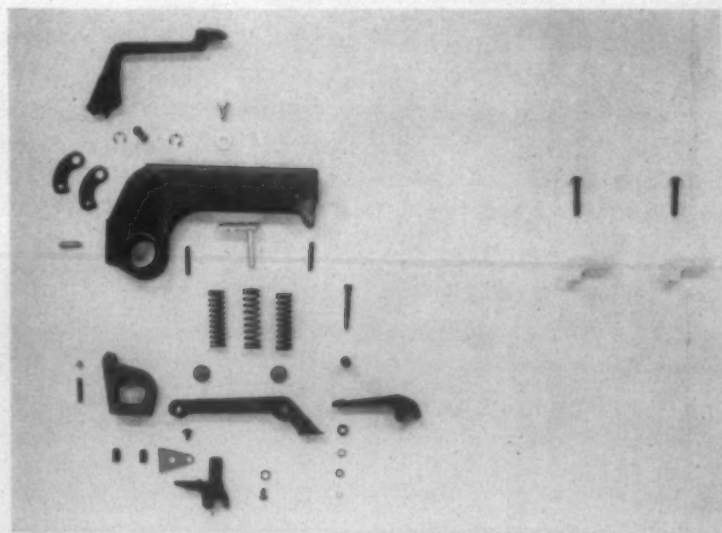
Engineers have not been blind to the possibilities of pneumatic and hydraulic methods of weighting top rolls and one or two have attained commercial importance. How-

ever, these methods are necessarily costly and fluid weighting systems require the extensive use of tubes, valves and diaphragms which tend to complicate rather than simplify the drafting element.

The earliest use of magnetic weighting means in drafting elements occurred in Europe in the early 1930's when a Frenchman named Paul Devaux used magnetic means to increase the effective weight of slip rolls. This was before the commercial use of Alnico permanent magnets. Much development work was necessary, however, to bring magnetic rolls to the point where they could be used for weighting the actual drafting rolls and it was not until October 1958 that Saco-Lowell's MagneDraft was given its first public showing at the Greenville Textile Exposition.

The design of the MagneDraft top roll is simple, especially when one stops to consider that the pressure system is built into this roll and requires *no* external components.

The magnetic drafting roll is described in U. S. Patent 2,686,940, the patent under which Saco-Lowell manufactures MagneDraft. The top roll of the drafting element



This illustrates the simplicity of the MagneDraft system. The 36 components at the left make up Saco-Lowell's Tru-Set top arm suspension system. The four parts on the right are all that are required for mounting MagneDraft.

\*Saco-Lowell Shops, Boston, Mass.



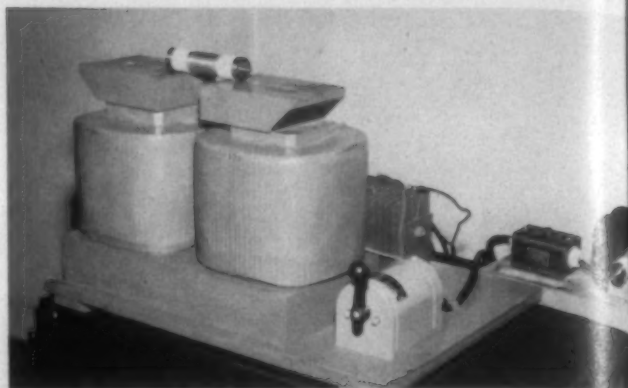
consists of a permanent magnet of cylindrical shape mounted in a tube of non-magnetic material, such as aluminum or stainless steel. Pole pieces of ferrous material are pressed into the ends of the tube and these pole pieces have annular flanges which are in close proximity to the surface of the steel rolls when the top rolls are in operating position. The cot is then stretched over the pole piece, thus completing the assembly of the roll.

## Gudgeon Supports

In operation the three or more lines of top rolls are supported by gudgeons at their ends in supports of nylon or similar material. The front, middle and back magnetic rolls are mounted so that like poles are adjacent. This is important since the mutual repelling action of like poles keeps the top rolls from "hunting" within their gudgeon supports. It is important in another respect, in that it greatly facilitates the handling of the rolls as they are being put into the frame. In order to insure that the top rolls are properly positioned on the frames, the gudgeons at either end of the roll are of different size, as are the gudgeon supports on the frame, so that the rolls will only fit in the correct position.

With the poles in proper position a magnetic circuit is established in which the lines of force extend from the magnet through one pole piece to the steel roll, along the steel roll to the other pole piece and thence back to the magnet. The force is applied at the ends of the roll thus avoiding any deflection, which is unavoidable with the conventional system of applying pressure in the center of the arbor.

Once the rolls are magnetized, the magnetic force does not deteriorate. Magnetic rolls can be demagnetized in a matter of seconds for ease in handling during buffing or the application of new cots. They need only be passed through an energized electric coil, shown here at right. When ready to use again they may be remagnetized by placing them in a simple fixture on a magnetizing unit, which insures the proper



Magnetic rolls can be demagnetized in a matter of seconds for ease in handling during buffing or the application of new cots. They need only be passed through an energized electric coil, shown here at right. When ready to use again they may be remagnetized by placing them in a simple fixture on a magnetizing unit, shown at left.

pole being adjacent to the proper gudgeon. A simple hand lever assists in removing the magnetized roll from the magnetizer.

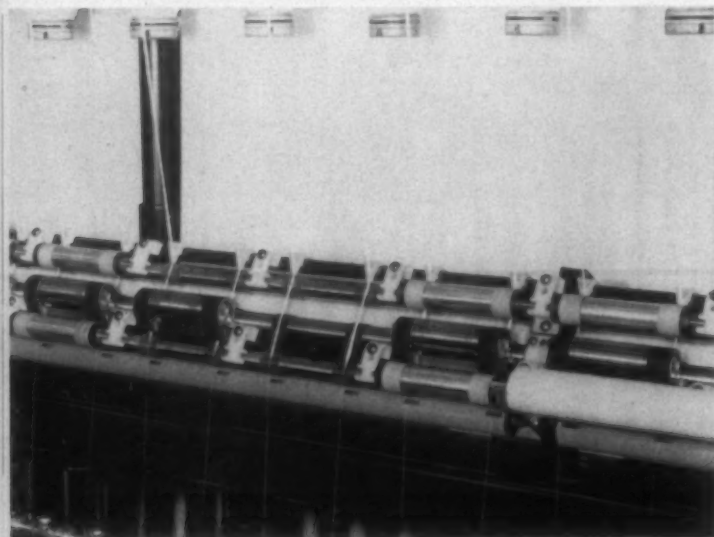
## Advantages Of MagneDraft

The advantages of MagneDraft lie chiefly in its simplicity and cleanliness. It is not expected nor claimed that magnetic weighting will produce any great improvement in yarn quality. However, we have found that in every instance the quality has been as good or better than conventional systems in regard to strength and uniformity and this quality can be maintained indefinitely. There is no lubrication to gradually dry out; no sticky top rolls making hidden spotty yarn defects; no saddles or hooks slightly out of their correct positions, but not sufficiently to make the ends come down; the magnetic top roll is always in correct alignment and the full pressure is always maintained.

The simplicity and cleanliness of MagneDraft is beyond any argument. First, the roller beam is completely clear between roll stands. No weight hooks, stirrups, or Speakman screws clutter this free area. This permits overhead cleaners to work at peak efficiency. Second, there are no saddles or long cap bars impeding the area above the drafting rolls. Therefore, a unique conical traveling clearer can be used to keep the back lines of rolls or aprons clear. Conical clearers are not new in themselves, as they have been used for many years on horizontal drafting elements. However, for the first time we can now use a conical traveling clearer on a steeply inclined drafting element. This is done by making the clearer of a ferrous metal shell covered with clearer cloth. The magnetic attraction of the top rolls is sufficient to prevent the clearer from rolling forward when used on drafting elements inclined to 60° from horizontal. A patent is now pending on this device.

## Absence Of Oil

The MagneDraft system has a complete absence of oil or oily film in the vicinity of the drafting elements. In ordinary drafting elements, the weight applied to the top rolls is through the top rolls to the steel rolls and through their bearings to the roll stands. With the advent of longer drafts the weight on top rolls has been considerably increased and bearing loads raised accordingly. This has



With MagneDraft, the roller beam is completely clear between roll stands. No weight hooks, stirrups or Speakman screws clutter this area. Overhead cleaners are permitted to work at peak efficiency. A conical traveling clearer can be used to keep the back lines of rolls or aprons clear.

increased the need for lubrication at the bearing areas, both between saddles and top rolls and between steel rolls and roll stands. In many cases expensive anti-friction bearings have had to be used, but even these require lubrication and are a potential source of yarn contamination.

With MagneDraft there are no saddles required and since all of the magnetic force is between top roll and steel roll, only the static weight of the steel rolls and top rolls is transmitted to the steel roll bearings. This means that inexpensive plastic bearings can be used for the steel rolls as well as plastic supports for the top roll gudgeons. Since the loads are light, no lubrication whatever is required. The benefits of this are too obvious to need elaboration.

One further advantage of magnetic weighting is derived from the fact that the weighting force is applied solely between top and bottom rolls. In conventional saddle and cap bar weighting, weight is applied to the top rolls to insure that the top rolls and any associated aprons turn as nearly as possible at the same surface speed as the bottom rolls. However, the very weight that is applied for that purpose also increases the braking effect of the saddle on the arbor and, because of forward thrust, that of the cap bars on the roll gudgeons, tending to slow down the top roll and make it slip. The use of anti-friction bearings and the elimination of cap bars has helped this situation considerably. However, no bearings are without some friction and there is still some braking effect. Magnetic weighting reduces this friction to the minimum and eliminates the oily surfaces that collect fly.

Because there is no pressure on the bottom steel roll bearings except the static weight of the rolls themselves,

the bottom steel rolls can run on simple nylon inserts. The relatively expensive anti-friction bearings with all their seals and other components are eliminated. It can be readily seen that in both top and bottom roll applications the simplicity of parts eliminates the lubrication completely.

At the present time MagneDraft is too new to enable us to report on any large scale installation. However, the first mill test frames placed in the mills have been running approximately a year with no difficulties except those minor "bugs" characteristic of all prototype installations.

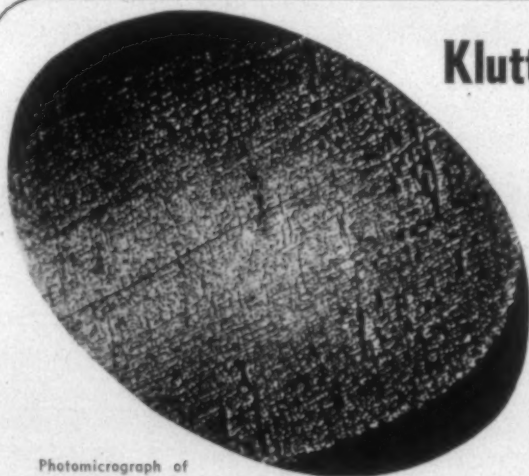
#### Opens New Fields

This development has required years of experimentation and research. To date our experience with magnetic drafting has been confined chiefly to conventional drafting elements of the Duo-Roth type. However, we feel that new fields are opened to our research engineers by the elimination of the limiting factors of conventional weighting.

For example, we already have under investigation a different system of drafting fibers which offers theoretical advantages over present systems. This system has not been practical heretofore due to limitations which can be overcome by the use of magnetic rolls. Much development and experimental work remains before this system will be ready for commercial use. As in all research and development, there is no guarantee that practical results will bear out the theoretical. It is merely cited as one of the innumerable opportunities opened up by the use of magnetic weighting. The field is limited only by the time and manpower that can be devoted to it.

## Kluttz Ring Service

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Photomicrograph of cross section of part of ring flange, showing penetration.

Kluttz Lubri-Cased Spinning Rings provide much more than a super smooth surface. By a patented process, dry lubricity penetrates way-down-deep into the metal to provide permanent dry lubrication.

Lubri-Casing permits break-ins at top speeds without overheating, galling, or seizing. Spindle speeds can be greatly increased with fewer ends down and higher quality yarns. Ring and traveler life is also increased. Here is a typical example:

This mill was spinning 38s yarn with knitting twist with spindle speeds of 9,929 r.p.m. on two inch rings with 6/0 travelers running at 5,200 s.f.m. and a front roll speed of 150 r.p.m. The use of Lubri-Cased rings has resulted in: (1) spindle speed of 12,860 r.p.m.; (2) 8/0 travelers; (3) traveler speed of 6,730 s.f.m.; (4) front roll speed of 191 r.p.m.; and (5) traveler life extended 120 hours.

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\*Trade Name—Patented

# Automatic Doffing Saves Money

## Deering Milliken describes its new doffer

**A**N automatic doffing machine, designed to replace the manual doffer with a machine tender and to reduce sharply down time of spinning frames for doffing, has been developed by Deering Milliken Research Corp., Spartanburg, S. C.

The automatic doffer reduces the down time of the spinning frame to about 15% of that required for conventional hand doffing, resulting in an 85% savings in down time. The research corporation estimates the automatic doffer will result in doffing labor savings of 30% to 50% plus substantial savings in indirect labor costs and fixed overhead cost. In addition, yarn quality is improved.

The new machine lifts full bobbins from an entire frame in one gentle motion. The same machine, previously loaded with empty bobbins, then drops these into place.

The automatic doffer can be tied into materials handling systems to pre-position bobbins for spoolers and quills for looms. The new equipment can be counted on to effect substantial reductions in battery filling and spooler tending costs, according to D.M.R.C. Improved spinning efficiency will result in increased production from existing plant and equipment.

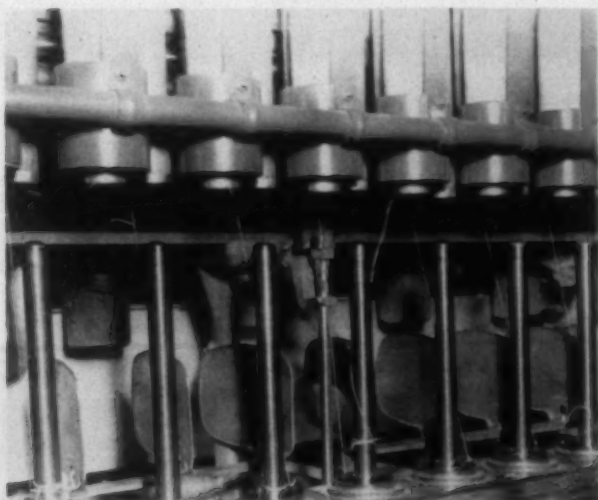
Mechanical doffing leaves a free tail of yarn which eliminates the conventional unwinding operation by the operator

on quills and bobbins. Machine handling of yarn is also expected to reduce the waste resulting from greasy and dirty yarns caused by manual handling.

The automatic doffer, D.M.R.C. believes, will pay for itself in tangible savings plus offering many additional intangible benefits. "This automatic doffer represents the first successful attempt to bring mechanization into this key operation in spinning," a D.M.R.C. official said. "In the more than 100 years since machine spinning replaced the hand spinning wheel, textile men have dreamed of an automatic doffer. Now it is here."

D.M.R.C. said it had been working on the project for more than five years. A number of different approaches were taken to the problem of lifting full bobbins and replacing them with empty bobbins. The automatic doffing machine employs a rubber grasper pneumatically controlled to remove the bobbins gently. Most previous attempts to develop automatic doffers have been on a spindle to spindle basis rather than on the basis of an entire frame.

The D.M.R.C. automatic doffer, after removing full bobbins from an entire frame and replacing them with empty bobbins, is moved on overhead rails to a loading station. Full bobbins are transferred to other automatic handling equipment and empty bobbins, automatically placed in the loading station, are picked up. The machine is then ready for another doff. D.M.R.C. officials expressed great satisfaction with results achieved with the automatic doffer during extensive mill tests.



This is a section of a spinning frame just after the automatic doffer developed by Deering Milliken Research Corp. had gently lifted 240 full bobbins in one operation and replaced them with empty bobbins. Attached to the horizontal bar in the upper part of the picture are rubber graspers pneumatically controlled which are holding the full bobbins. The doffer will be raised and routed along overhead rails to a loading station. There full bobbins will be placed on other automatic handling equipment and the doffer will pick up empty bobbins which have been placed on the loading station automatically.

**T**HE Deering Milliken automatic doffing machine is now in operation at Pacolet (S. C.) Mfg. Co. The machine tends four spinning frames. Doffing time per frame is reported to have been reduced from 12 minutes to one minute. The doffer travels on parallel overhead rails but the system is adaptable to frames in tandem. Pacolet's doffing cycle on each of the frames is about seven hours. The frames are Saco-Lowell 4" gauge warp, running 23s. Bobbins are brought to the frames from a bobbin sorter. They travel in a specially designed truck that loads them automatically onto the pegs of an endless rubber belt at the loading station. The pegs also receive the full bobbins from the doffer and start the bobbins on their way to the sorter.



# New Flatless Card Cuts WASTE

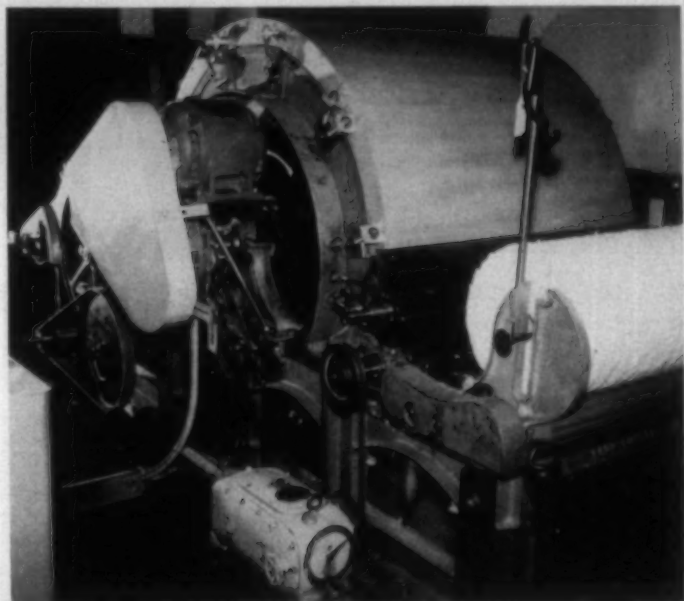
A NEW improved flatless card that cuts cotton carding waste by more than half and promises to save the textile industry millions of dollars a year has been developed by the Southern Regional Research Laboratory of the U. S. Department of Agriculture in New Orleans, La. The device which replaces the flats is relatively simple and inexpensive. It has no moving parts and weighs only about 20% as much as a set of conventional flats.

Known as the granular card, the new unit was demonstrated to potential manufacturers and users at the New Orleans laboratory on March 30 and April 3. The word "granular" describes the surface of the new device that comes in contact with the cotton during carding. It was developed by research engineers R. A. Rusca, R. S. Brown and A. L. Miller. A public service patent has been allowed and will be available for licensing in April.

In a paper delivered at the 1958 Cotton Research Clinic, the developers said the new device weighs about 200 pounds compared with the 1,000 pounds for conventional flats. It completely seals the top of the card, thereby eliminating a major source of dust and fly. The apparatus in itself has no moving parts; however, associated with it is one small moving component installed in connection with the lickerin set-up. After removal of the flats,



Research engineer Roger Brown inspects the small amount of waste taken from the S.R.R.L. Granular Card. In mill-scale tests the device has demonstrated that it can cut carding waste in half. (U.S.D.A. Photograph)



The S.R.R.L. Granular Card has no moving parts and weighs about 200 pounds as compared with 1,000 pounds for the elaborate assembly of moving parts it replaces. (U.S.D.A. Photograph)

installation can be made in three to four hours by two men. Maintenance cost should be very low. Operating cost is zero because the device requires no power and there is no cotton waste to strip.

The developers summarized their findings saying the device "eliminates all flat waste, reduces dust and fly and materially decreases the weight of the card. Evaluations of the apparatus under pilot plant conditions show reductions of 50 to 75% over-all card waste, about the same nep count and slightly more uniform sliver as compared with a conventional card in excellent condition. The apparatus appears to perform equally well on short, medium and extra-long staple American cottons."

## Waste Reduction

Limited mill scale tests initiated in August 1958 with  $1\frac{1}{8}$ -inch staple strict middling cotton resulted in an average waste reduction of 4%. This was a greater saving than was found with similar cotton in the pilot plant investigations. The mill scale tests also showed that the number of neps was slightly reduced and yarn quality was maintained by the granular card.

Although the granular carding device is simple, it requires precision machining in its manufacture, according to Mr. Rusca. The granular card resulted from a two-year study of air currents in carding machines. These studies demonstrated that carding in present-day machines is essentially a mechanical action. However, the air currents in the card, if properly directed, can be made to assist in separating cotton tufts into their individual fibers. The granular



**THE SPRINGS COTTON MILLS**, Fort Mill, South Carolina. Six plants of Springs Cotton Mills run 29 West Point Slashers.

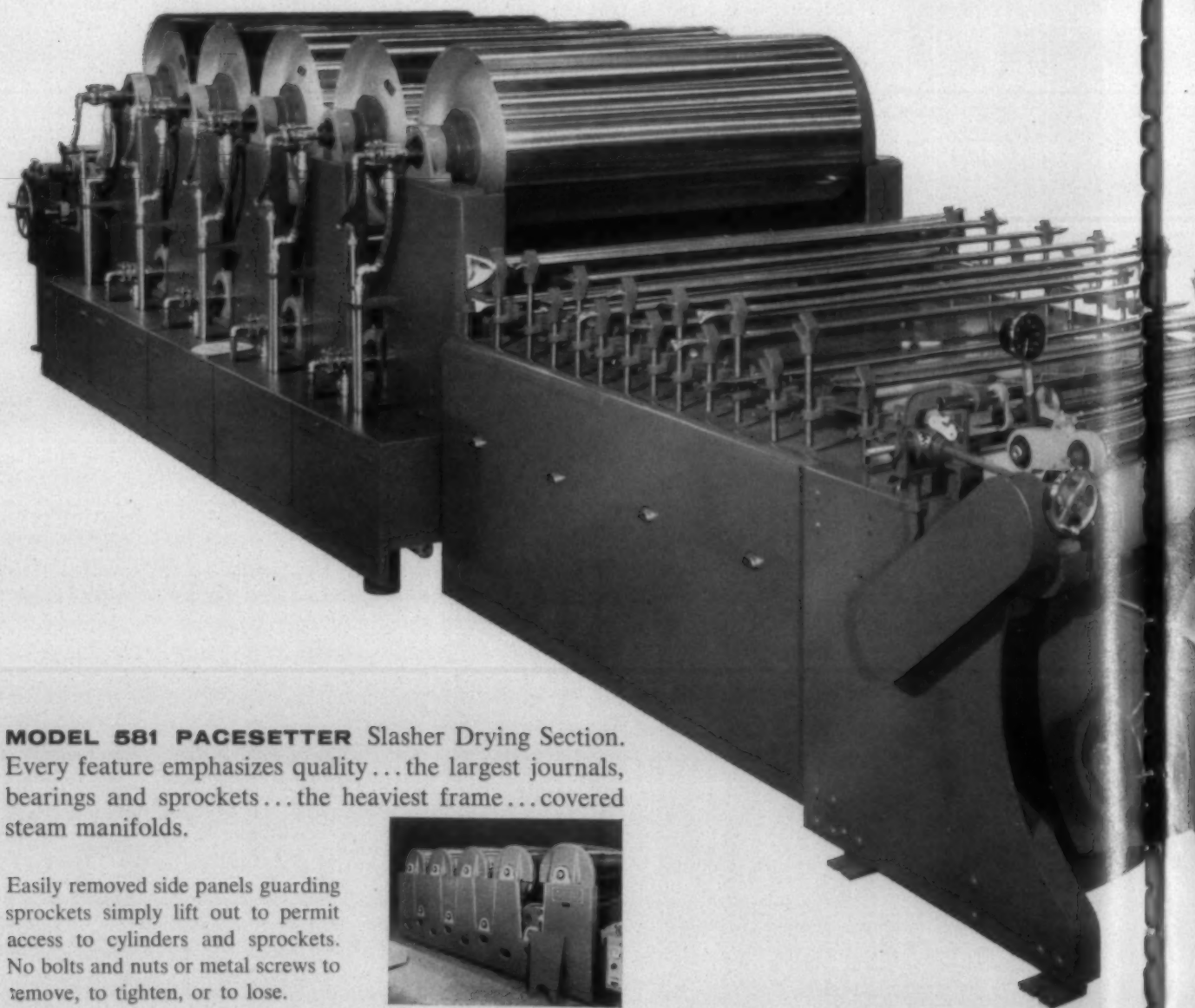


**DUNDEE MILLS, INC.**, Griffin, Georgia. Three West Point Foundry Slashers replaced seven old slashers.



**LYDIA COTTON MILLS**, Clinton, South Carolina. Two West Point Foundry Slashers replaced four old slashers.

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**TALLASSEE MILLS** of the Mount Vernon Mills, Inc., Tallassee, Alabama. Six West Point slashers replaced nine old slashers.



**PACOLET MANUFACTURING COMPANY**, New Holland, Georgia. Five West Point Foundry Multi-Cylinder Slashers in this mill.



**CONE MILLS CORPORATION**, White Oak Plant, Greensboro, N. C. Five West Point Multi-Cylinder Slashers replace 16 old slashers.

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**ALL OF THE SIX** leading textile mills pictured above have 100% West Point Foundry slasher installations.

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card combines the effect of air currents and a specially prepared inner surface next to the carding cylinder to carry out efficient operation.

The air current investigation also led to the development of a new type of cover for the lickerin. Although the cover is not necessary to the operation of the granular card, it materially reduces air currents and fiber loss.

The investigation concludes that "air is not a major factor contributing to carding and there is no fundamental reason requiring the use of flats for carding. Basically, the

only necessary requirement is that the tufts and unopened groups of fibers deposited on the cylinder by the lickerin encounter a resistant force sufficient to separate the tufts into individual fibers and spread these fibers over the entire area of the cylinder clothing before reaching the doffer."

Carding without flats shows promise of enabling major increases in production rates according to the developing engineers' paper. Research is continuing with the objective of doubling carding rates while maintaining or improving quality.

## Warp Preparation & Weaving

# The LOOMFIXER And His Job

### Part Five

By WILMER WESTBROOK

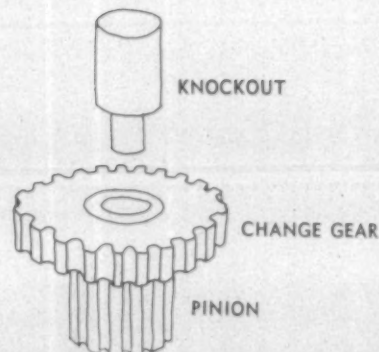
A power loom has many gears—spur, ratchet, bevel, spiral and worm—each with a specific duty to perform. Speeds of the gears are as varied as their construction. There is the motor pinion that turns at 1,745 r.p.m., the take-up roll gear with a speed of one revolution every few minutes and the traverse gear that makes only a partial turn in an entire day.

Loom gears should be carefully installed, aligned and meshed. A gear that is improperly applied can cause loss of production, off-quality cloth, strain and wear to loom parts and unnecessary work for both the weaver and the loomfixer.

A gear that is not meshed deeply enough with another will cause lost motion, wear to the teeth and will often cause the teeth to break. If the teeth of two opposing



One way to check the depth of mesh and the alignment of gears is to place a piece of paper between them and revolve the gears so that the paper will pass between the teeth. Marks left on the paper will accurately show any abnormality.



A knockout plug made of cold-rolled steel or the end of a cloth rod will remove pick change gear pinions without damaging them.

gears are meshed too deeply they will bind, cause a drag on the entire loom and both the gears and their shafts will wear abnormally.

The pitch circle of a gear is a circle around the gear at the point of contact with the teeth of the meshing gear. The distance from the center of a tooth to the center of the next tooth at the pitch circle is the circular pitch of the gear. The number of teeth per inch of pitch diameter is the diametral pitch. Two gears must have the same circular pitch and the same diametral pitch to mesh and run together.

The teeth of one gear should clear the bottom of the teeth of the meshing gear by one-seventh of the tooth length. The teeth of one gear should fill the space between the teeth of the meshing gear to prevent backlash, noise and unnecessary wear.

### Mesh-Alignment Check

One way to check the depth of mesh and the alignment of gears such as the motor pinion and the friction gears is to place a piece of paper between them and revolve the gears so that the paper will pass between the teeth. Marks

# VICTOR



## Mill Starch

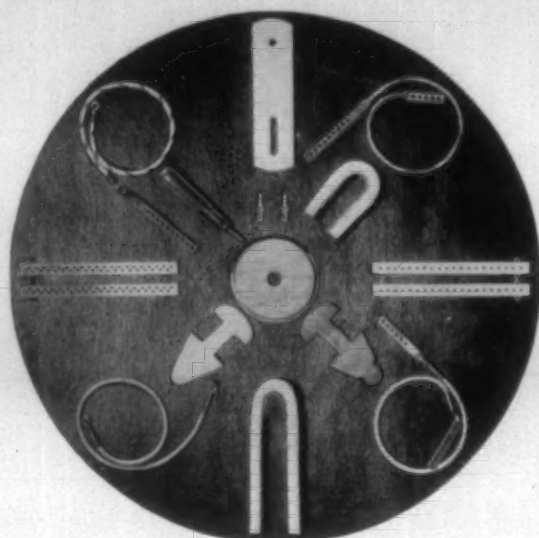
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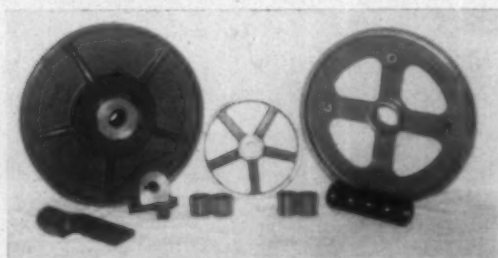
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### **WARP PREPARATION & WEAVING**

left on the paper by the gear teeth will accurately show any abnormality.

Use a gear puller to remove gears whenever possible. It is sometimes necessary to drive a camshaft gear from the shaft with a drift and heavy hammer. If the gear is broken or worn it is often best to split it with a chisel and hammer.

Gears should be pressed onto the shaft when possible. If it is necessary to drive the gear onto the shaft with a hammer, care should be taken to strike the thick part of the gear hub and not hit the spokes or teeth. Be sure the keyways are aligned and not damaged.

One of the gears that is changed most frequently is the pick change gear. Always count the teeth of both the gear and the pinion when they are changed. Most pick change gears for worm gear take-up motions have one tooth for each two picks that are to be inserted in the cloth. Ratchet take-up motions usually have change gears with one tooth per pick.

#### **Pick Gear Gage**

A handy gage can be sawed from a block of wood to quickly identify a pick change gear on the loom. In storage, change gears should be placed in segregated and plainly marked bins for quick selection. A punch can be made from cold-rolled steel or from the end of a cloth rod to drive the pinion from the change gear when it is necessary to change it.

Don't mesh pick change gears too deeply when they are installed in the loom. Wavy cloth, thick or thin places and other fabric defects are caused by improperly meshed take-up gears. Turn the gears forward and backward to see that they turn easily with no lost motion before the loom is started.

The best way to install crankshaft gears and the attached friction discs or pulleys is by means of a hydraulic press especially made for the purpose. When the crankshaft is installed in the loom, check the alignment and meshing of the teeth of the crankshaft gear with those of the camshaft gear. It may be necessary to either file or build up the points of the bearings to get the contact alignment and mesh.

Don't use makeshift shims! The only safe shim is one that fits under the entire bearing and has holes through which the bearing bolts extend. This type of shim cannot shift or slip out of place.

#### **Clean Teeth**

Keep gear teeth clean. Oil, grease, dirt and lint will form between the teeth and cause the gears to bind. A hook made of stiff wire or light steel rod can be used to clean gear teeth periodically. Gears that revolve on a shaft or stud should have open oil holes for efficient lubrication.

Gear teeth also need frequent lubrication. Gears such as the camshaft gear, crankshaft gear and harness drive gear should be lubricated with grease or with a mixture of oil and grease. Take-up, let-off and similar gears are best lubricated with oil.

The amount, kind and frequency of lubrication will vary according to the kind of gear, its speed and local conditions. The loomfixer should work out a schedule to follow for



cleaning and lubricating the gears on his looms. Proper lubrication and maintenance will greatly prolong the life of the gears and will make the loomfixer's job easier.

High loom production, low seconds and a minimum of repair parts and labor depend to a large degree on the efficiency of the loom gears. Don't neglect them!

A. E. STALEY REPORTS ON ITS

## New Non-Congeaing Starches

THE A. E. Staley Mfg. Co., Decatur, Ill., has introduced two new warp sizes for specific use with synthetic, fine combed cotton, worsted and worsted-synthetic blend yarns. The products are known as Miralloid and Mira-Film. Both are acetate gums. Staley describes Miralloid as a thick-boiling, noncongealing derivative of corn starch. Because of the resistance of its cooked paste to viscosity breakdown, its stable viscosity during cooling and aging, and its reduced set-back, this product is said to be particularly suited for the warp sizing of fine combed cotton and worsted yarns.

Miralloid, manufactured by an exclusive Staley process based on an entirely new starch reaction, is made by the acetylation of native corn starch. Although the degree of acetylation is relatively small, the behavior of the resultant product in cooked pastes differs greatly from the original starch. The chemical substitution of acetate radicals into the polymeric chains of the starch reduces their tendency to cling together to form bundles of micelles. The chains are, therefore, more easily disassociated during heating or cooking and much less likely to reassociate themselves in the cooked paste. During homogenization, the company says they are more sensitive and also more predictable in their response to changes in pressure.

Another outstanding characteristic claimed for the product is its stability during prolonged heating or mechanical agitation. After Miralloid is cooked, or cooked and homogenized, its resistance to viscosity breakdown is considerably greater than that of other root starches.

Because of the substituted acetate radicals on the molecular chains, Miralloid gelatinizes over a temperature range about 10 to 15 degrees F. lower than native corn starch. It also requires less cooking time before homogenization than do native starches. It is said to produce soft gels on cooling and does not form hard size at the slasher. Tests have shown it is a completely noncongealing paste with reduced set-back characteristics. The noncongealing character of Miralloid pastes have minimum surface scum in the size box when the slasher is stopped.

### Increased Weaving Efficiency

Although its pastes are long and stringy, Miralloid has good flow and film-forming properties, according to Staley. These properties result in improved weaving performance. Staley reports that an extended test on fine combed cotton yarns showed the number of warp stops was reduced 1.5% by using Miralloid. Actual number of warp stops per loom was 0.315 as compared to 0.320 warp stops with the size previously used. Other applications on worsted yarns and on blends of worsted and synthetic fibers have increased weaving efficiency from 1 to 3%.

Another improvement noted for Miralloid is that its use permits higher slasher speeds. In sizing fine combed cotton, slashers have been operated as high as 150 y.p.m. with minimum ends out of lease. Previous speeds on this slasher averaged 135 to 140 y.p.m. Paste flow characteristics also insure excellent drainage from the cooking kettle.

### Size Preparation

Pastes may be prepared by any of the procedures now used for native starches or other starch derivatives. Staley points out that although results with homogenization are particularly outstanding, a satisfactory viscosity level may also be obtained through enzyme conversion. Enzyme requirements are comparable to those of native corn starch. If paste viscosity is not reduced by homogenization, enzyme conversion or other special treatment, the size may be prepared by several hours' continuous cooking. The behavior of Miralloid in this respect is similar to that of potato starch. After cooking, however, Staley says its performance on the slasher has proved to be superior in all cases.

### Effective Yet Economical

The textile industry has been seeking an effective yet economical warp sizing for use with synthetic yarns. The more recent synthetic yarns of hydrophobic fibers have presented new difficulties and the search for a satisfactory size has become intensified. Staley now offers a new series of starch derivatives, Mira-Film acetate gums, which reportedly mark another major step toward the perfect warp size for synthetics.

Mira-Film is an acetate ester of corn starch. It produces noncongealing pastes with basic flow properties resembling those of hydroxy ethyl ether derivatives of starch. Staley reports, however, that protection afforded synthetic fibers by Mira-Film is superior to that of the starch ethers.

Mira-Film gelatinizes over a temperature range approximately 10 to 15 degrees lower than that of native corn starch. It requires only 30 minutes cooking time at normal concentrations. Pastes are said to be unusually stable during cooling and can be used in the size box at temperatures as low as 120 degrees. When reheated after aging, the paste returns approximately to its original viscosity. Staley says although the cooked paste flows well even at relatively low temperatures, it has a long and stringy character which is advantageous in sizing synthetic yarns.

### Abrasion Resistance

The films produced by Mira-Film are strong and flexible with increased abrasion resistance. In comparison with other

sizes on 20/1 spun acetate yarn, Walker abrader results were:

TYPE OF SIZE	ABRASION STROKES
none (unsized yarn) .....	9
starch ether .....	33
other starch derivative .....	30
Mira-Film 40 acetate gum .....	43

Staley says that the only additive required in many applications of Mira-Film is a block sizing wax. It does not require resin adjuncts in application. Mira-Film improves weaving efficiency according to the company's report. On

a 90/10 viscose-acetate blend, it gave 1 to 2% higher weaving efficiency than the starch product previously used. It has also been used without resin adjuncts to size 60/40 blends of cellulose triacetate and viscose. Mira-Film has reportedly increased weaving efficiency of 100% polyester yarns which are generally considered to present the greatest difficulties in sizing. In this application, Mira-Film was used in combination with polyvinyl alcohol.

Technical data sheets on the new acetate gums are available from Staley representatives, from any of the company's branch offices, or from the home office in Decatur.

## *Bleaching, Dyeing & Finishing*

# Preparing Cottons For Resin Finishing



By SYDNEY M. CONE JR.\*

WHEN Merchandising House No. 1 came out with a resin finished line for ladies' dress goods, it coordinated the requirements of the consumer with the finishing operation and the greige goods construction. This House No. 1, which I name it in order to preserve some measure of anonymity, adopted the following procedure.

First, its laboratory set up all of the standards. The policing of the standards at the greige goods level, at the finishing level and at the merchandising level was handled by the laboratory. The laboratory required the use of epoxy resins because the epoxys had no nitrogen element in them and were therefore considered completely non-chlorine retentive.

The principal difficulty with dress goods end-use at the time was the formation of holes in the cloth as a consequence of ironing with a hot iron. The holes were caused by the hydrochloric acid released by the iron from the chlorine retained by the usual urea or melamine resins then in vogue. The goal being to eliminate chlorine retention, the epoxys were used even though they weakened the cotton cloth to tensile and tear tests considerably more than did the other resins.

House No. 1 attacked the strength problem by squaring the construction and heavying the fabrics. They added up the conventional broadcloth 136 and 60 to get 196, and

re-assorted the threads nearer equal in each direction. If the strength still wasn't there, they added weight by heavying up the yarns.

I think they did the sensible thing. Their products took a nice piece of the market. This is the classical approach and will serve as the basis for our discussion.

### Aim Of Merchandising

This merchandising effort was aimed at three particular problems: chlorine retention, tensile strength and tear strength. There are other problems connected with resin finishing, but none that are so pertinent. It has been assumed that a loss of tensile strength as a consequence of resin finishing can be expected to produce a finished article that will give less satisfactory use. It has been assumed that the loss of tear strength also predicts less satisfactory end-use service.

These two assumptions do not square with the facts in all instances. We have much evidence that the reduced tear strength and tensile strength of resin treated fabrics does not necessarily result in fabrics that wear out sooner. To the contrary, there is evidence that the fabrics will wear longer.

Merchandise House No. 2, and again I respect confidences by withholding the name, has assured me that the laundering of sheets, not treated with resin, creates a wearing-out of these sheets much sooner than an equal amount of laundering of resin treated sheets.

I have heard the same thing about shirts. The actual laundering of the shirts gives the lie to the tensile tests and the tear tests of the laboratory. The resin finished fabric outwears the untreated, although it may start from a lower base. What is the reason for this better performance?

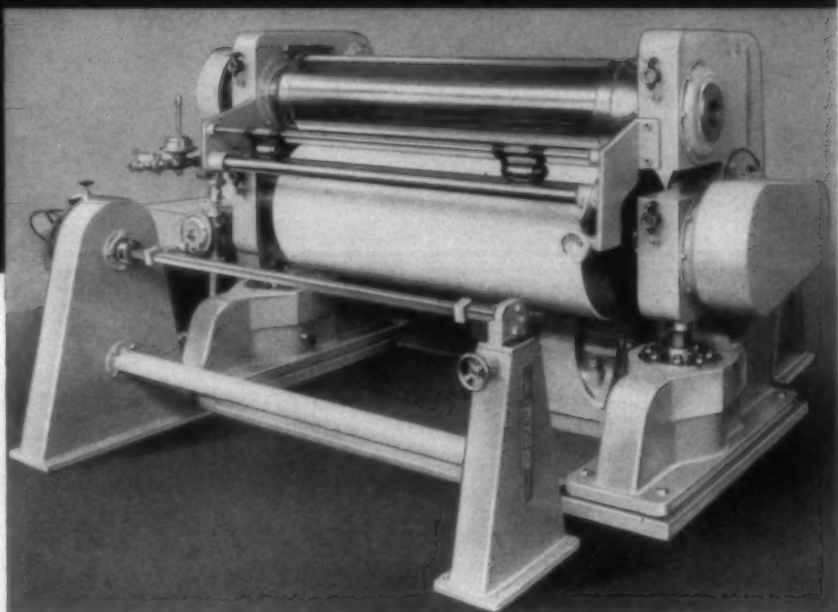
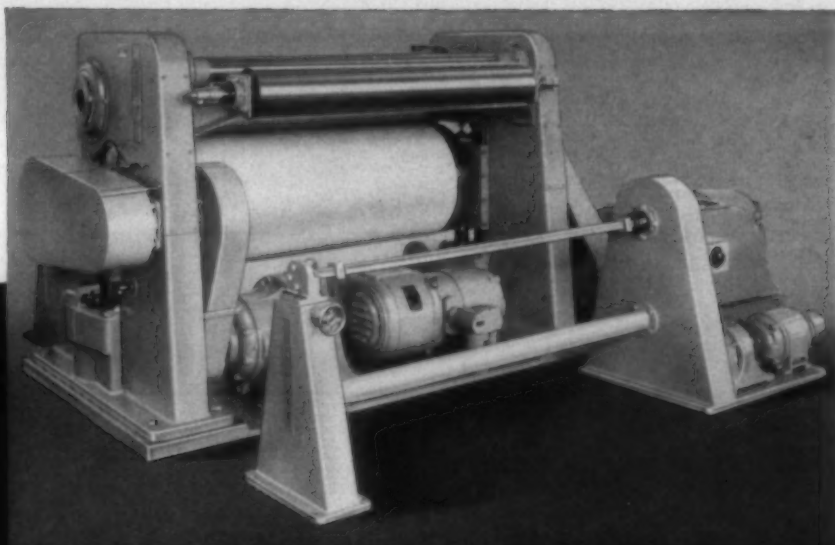
One Doctor of Philosophy has hazarded the opinion that

\*Vice-President of Cone Mills, Greensboro, N. C.

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the reason is due to a surface coating of resin that provides abrasion resistance. We are familiar with the theory that resins create a bond in the fiber and modify the fiber by cross-linking. In addition to the cross-linking, there is this surface deposit of resin that adds to the wearability of the fabric. Whether this theory is correct or not we are interested in it and we are investigating it further.

### Resin Surface

If there is this resin surface on the fabric, what is its importance to the fabric? Does it repel water? I am told that resin itself does not create a water repellency in the fabric. The information goes more specifically to this point by asserting that a resinated cotton fabric is one-seventh less absorbent than the same fabric untreated. I doubt if one-seventh less absorbency is of any great consequence. It is true that many resin finishes incorporate water repellents as additives and the water repellents will, naturally, do a better job than increasing the water repellency one-seventh. They usually start out by increasing the water repellency seven-sevenths.

At any rate, we are not talking about water repellency but about the effect of resin coating on the surface of the fabric. Resin coating does not decrease the absorbency of the fabric by any sizeable amount. It is claimed to increase the abrasion resistance. Maybe so. On the other hand, a practical researcher in another laboratory argues that the reason for the better wearability of the resinated fabric is due to the great resilience of the fabric during the laundering cycle.

This gentleman, who has actually observed the fabrics twisting and turning in the laundering cycle, asserts that the untreated fabrics wear themselves out by knotting up and tearing against themselves. The resilience of the treated fabrics prevents this kind of knotting and wearing from occurring in the laundry machine. It seems logical, does it not? We have definite reason to believe that resin treated fabrics do not have to reach the same laboratory tear and

tensile strengths as untreated fabrics to produce the same or even better end-use results.

### Strength Loss Considerable

Having made out the case for a somewhat lesser tensile and tear break to produce an equal wearability, we still have the problem that strength loss is very considerable. We have already had to sacrifice loss of strength from the greige mill break by reason of the finishing operation. Desizing, which removes the starch film from the yarns, scouring, which takes out the rest of the non-cotton content—the pectins and the waxes and the oils; and bleaching and dyeing, all have had their effect on the cloth. The scientists who are trying to find out how much the cloth can give up in the way of strength before it gets to the resin, and arrive at a formula for the resin treating itself have tried to find out how much strength is given up by the cloth when it is desized or scoured or bleached or dyed.

The investigation into these areas has been difficult indeed because of the variations in the methods of treatment from plant to plant. Each finisher has his own formula and his own machinery speeds. Each fabric reacts to these formulas and speeds in different ways. We find some of the most extraordinary contradictions. Consider four items: warp tear, warp tensile, filling tear and filling tensile. In a test of a print cloth going through the desizing process it was found that strength is lost for three of the four elements and gained in the fourth.

### More Confoozin' Than Amoozin'

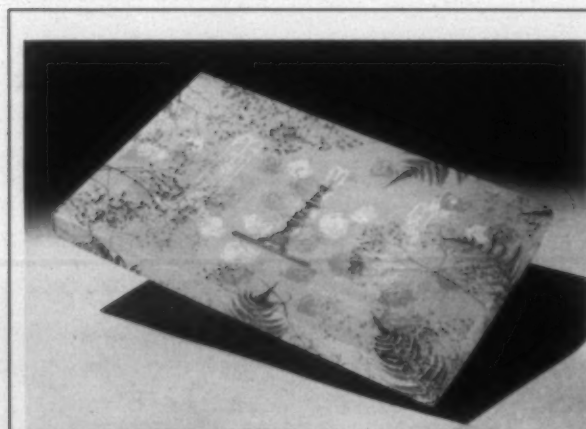
Here's another situation: desize-scour print cloth; warp tear goes decidedly down, filling tear goes decidedly down, but warp tensile and filling tensile both go up. Bleach and dye for the same print cloth: warp tear down but tensile up; filling tear up but tensile down. Resin treat: uniformly down, all four tests. In a poplin, taking the same treatment of desizing where the print cloth shows three downs and one up, the poplin shows three ups and one down. Scouring a poplin shows the warp tear down and warp tensile up, filling tear and tensile both down. A broadcloth acts very much like the poplin in its behavior. A sateen acts more like the print cloth.

A tabulation of these items from a laboratory report—again a confidential report—shows that the handling of the cloth in the finishing plant can give a very confusing picture. They can be perfectly sure of only one thing, resin treatment causes a loss of tear and of tensile strength.

How do we go about reducing this loss when we finish with resins? There are a number of suggestions. The chemists would have us look at the catalysts. They would have us examine the acidity of the catalysts and the temperature at which the curing is done. They would have us take a look at softeners and the point at which the softeners are applied to the cloth. It has been said that the softeners should be put into the cloth before resin is put in if it is to be most effective in retaining the strength of the cloth.

### Mercerize After Resinating

Some of the more interesting theories have to do with after-treating the cloth. The theory that cloth should be mercerized after the resin has been cured in it is an interesting one. The proponents of this theory maintain that if the caustic soda is not too strong and is not allowed to rise



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bove room temperature, the strength of the cloth will be materially improved. Some of us wonder whether the caustic soda has anything to do with it outside of the possibility that caustic removes some of the effect of the resin. Parenthetically, a strong scour will reverse the resin reaction and unbind the fibers and put you back where you were before you resin treated. Therefore, strong scours in the laundry are discouraged and should not ever be used.

The point is a resin can be put in the cloth and then its effectiveness can be eliminated or cancelled out by a further process. Let's not consider anything as silly as this. Let's assume that we are going to add a process after we have resinated that doesn't simply cancel out the chemical reaction but does contribute something new to the fabric. What are we doing when we mercerize a fabric after it has been resin treated, assuming that we are not removing the resin or cancelling the reaction? Well, we are putting the cloth into the jaws of a tenter frame and pulling the fabric to a considerable degree. It may well be that the mechanical action of this pull is an important factor in restoring resilience to the cotton fiber.

Mill 3 is convinced that a slight amount of sanforizing gives a great deal of benefit by restoring some resilience to the fabric. This is particularly applicable to work clothing and heavier fabrics. I don't say it is not applicable to the lighter ones but the experience is quoted from heavier fabrics. These fabrics can be resin treated to a residual shrinkage of between 2% and 3% and then sanforized to a residual shrinkage of less than 1%. The mechanical action of the sanforizing, which produces the minor additional mechanical shrinking of 2%, does appear to make the fabric a great deal more amenable to the subsequent processes of cutting and sewing in the garment factory. What else it does to the fabric is a question that needs further exploration, both in practical use and in laboratories.

#### Pick Up More

It remains to be pointed out that some cotton fibers will pick up resins and react to them somewhat more effectively than other fibers. The Textile Research Institute's work with fibers has pointed out the fiber contains soft parts and crystalline parts. The crystalline parts are unaffected by the resin. The resin goes into the soft parts. If you have a fiber that has more soft parts and less crystalline, you are going to get more effective use of your resin. You are going to affect the fiber a good deal more. This is something that has to be borne in mind in the selection of the cotton and the makeup of the yarns but how much more we can say about it is difficult for me to tell you.

A project sponsored by the National Cotton Council, now at T.R.I., is looking into the effects of the resin on the resilience of the fiber, and the way the resin gets into the cotton fiber, and how much of it the fiber can pick up, and just how the resin creates resilience in the fiber, and what else it does to the fiber.

We are currently selecting cotton fiber so as to get a tear strength and a tensile strength in the cloth to a maximum extent consistent with the cost of the cloth. We find Company No. 4 assuming a loss of 40% from greige goods to finished goods. This company has set up a definite set of standards for the final fabric. I say standards in the plural because this company has one standard for pants material, another for shirting, another for nightwear and



BUSINESS MAGAZINE EDITION

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so on. It is necessary in the use of standards for resin finished fabrics to ascertain the end-use and plan the fabric for an end-use. It might be well to caution our customers that fabrics are planned for specific end-uses. The retailer who sells fabrics outside their planned end-use is liable to cause some difficulty to his customer. At any rate, you do have to plan for an end-use and Company No. 4 does have specific greige goods standards set up for these end-use categories.

Assuming a loss of 40% in the finishing operation for a heavy work clothes fabric, you are able to assemble a chart for the greige goods mill. The greige goods mill then knows that its cloth has got to come up to a definite tensile and tear-to be acceptable to the finisher for the resin-treated end-use. This has thrown a more specific problem at many cotton mills. Cotton mills that had no conditioning rooms have had to go to work and put some of this equipment into place. They find considerable variation from loom to loom and they are actively looking now to find out what is causing some of this variation. Not that they did not know about it before, but it has become more critical to them now. The standards have been set up for the end-use and have reached right back to the cotton mill. The mill, in turn, is trying to find a cotton fiber, or a mixture, that will produce the necessary strength and appearance at appropriate costs.

The problem goes back to the farmer and the cotton supply. It is unfortunate that this very rapid growth of resin treated fabrics comes at a period in the history of

cotton planting where the greatly reduced acreage restricted the available supply. The 1958 cotton crop was considerably substandard in large areas of the country. These two factors are very unfortunate. Nevertheless, the cotton mills have produced adequate fabrics and the finisher has been able to hold the strength loss within the 40% in these particular finishing areas. The choice of fibers, and the blending of fibers has received attention from the synthetic people as well as from the cotton farmer. There is a definite effort to present to the cotton man the possibility of blending in some rayon because the strength of rayon is less affected by resin than cotton. We have made a number of tests of this sort of blend and so far the results that I have heard about are not conclusively in favor of the blending.

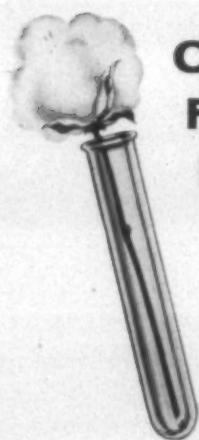
As to fabric geometry in planning a fabric that will adjust itself more readily to the resin treating, it is said that the softer the twist in the yarn the more easily will the resin penetrate the yarn and the less amount of resin will have to be used to secure the same results. This is desirable because the less resin used, the smaller loss of strength. So it is generally recommended that the mill put as little twist in the yarn as can be done. This is a contradictory state of affairs to the cotton mill which has found that less twist gives less strength. In one breath we are asking for more strength when we set up a standard for resin treating, and then we tell them not to put in the twist. Nevertheless, it is generally believed that the softer yarns do absorb the resins better and the net result of low twist is the use of less resin and a lesser strength loss.

#### Move Freely

The geometry of the fabric should allow its threads to relax and move about freely. The tighter the weave and the more rigid the geometry of the fabric, the more difficult it is to get the resin into the fabric in the first place and the more brittle we find the cloth in the final end-use. The general opinion seems to be that a flexible fabric, one with considerable give in it, is highly desirable. This would indicate that the fabric ought to be more nearly square. We have talked about Merchandising House No. 1, which took a 136 by 60 and tried to square it out.

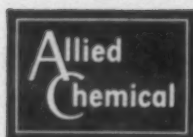
There has also been considerable heavying up of fabrics to take the advantage of heavier yarns and their greater strength. The standard broadcloths appear to be picking up more threads. I hear a 136x60 has moved up to 136x64. The cotton mill people tell me that the extra four threads in the filling which are necessary for some of the more vigorous resin treatments (for higher Monsanto resiliency ratings) increase the cost of the cloth by a substantial percentage. There results a substantial increase in cost when we seek real resiliency so that when we talk about fabric geometry, and go about changing our weights and yarns, we are not going to be too popular with the cotton mills. The consumer at the ironing board has gone on record positively in favor of this finish, so we must persistently press for good geometry and the requisite yarns.

The truth about the greige goods situation is that it requires a good deal more study and we are doing a great deal from theory. The finishing plants have made progress in controlling strength loss. The chemist has helped the finishing plants reduce the strength loss. We need not place the burden entirely on the quality of the greige goods because we have many opportunities in the chemistry lab to help us to effect improvements.



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## Productive Maintenance — results in — Maximum Output

By C. E. SUTTON\*

**D**URING the last ten years the system of Productive Maintenance was developed and put into practice by many types of industry. In its basic concept productive maintenance is entirely different from "oil can maintenance" as well as the usual thinking about "preventive maintenance." Productive maintenance recognizes that machinery may fail—even with the best routine maintenance system—but it preaches the idea that unplanned downtime of machinery can be kept to a minimum with properly engineered maintenance. This means then that maximum output can be obtained from investment in plants, equipment and manpower.

There are five steps in a well designed productive maintenance program:

**(1) Gather complete equipment data.** No maintenance system can be effective unless the location of equipment, its nameplate rating, characteristics, age, etc., are known and recorded.

**(2) Determine the extent of routine maintenance.** This again is elementary, but the beginning of any good system is the establishment of a routine program for regular inspection, lubrication and minor parts replacement on the equipment which has previously been listed and cataloged under Step No. 1.

**(3) Establish a routine operating control system.** No maintenance system can be really effective unless records are kept to insure the orderly and efficient purchasing and stocking of minor parts, maintenance cost control, manpower planning, etc.

**(4) Evaluate for critical maintenance.** It is at this point that productive maintenance pulls away from usual maintenance systems and lends itself to being tailored for the industry in question. It is also at this point that top engineering judgment is required to insure maximum effectiveness of a productive maintenance program.

In this step a list is made of each piece of equipment in the order of its importance to production. The cost of breakdowns and the effect of downtime for each piece of the critical equipment must be balanced against the cost of stocking standby parts, or, perhaps complete machine re-

placements. This information is essential in order to determine the best protection for the productive system at the least cost.

Unfortunately, it is in this area that the average industry has the least information. In discussing this point with a multi-million dollar manufacturing plant just recently, plant management admitted that no effort had been made to evaluate the cost of downtime for certain critical machines in their plant and hence no real engineered plans had been made to keep this downtime to a minimum.

**(5) Establish a critical maintenance program.** Here the decisions arrived at in Step No. 4 are put into effect. It is at this point that definite budget plans can be made to establish a plant overhaul program of critical equipment which might be projected over a five to ten year period to permit the systematic upgrading and modernizing of producing equipment. It is this step which eliminates the danger of some day finding an entire line or process that require immediately overhauling to reduce the danger of a complete plant shutdown.

### Road Blocks To Progress

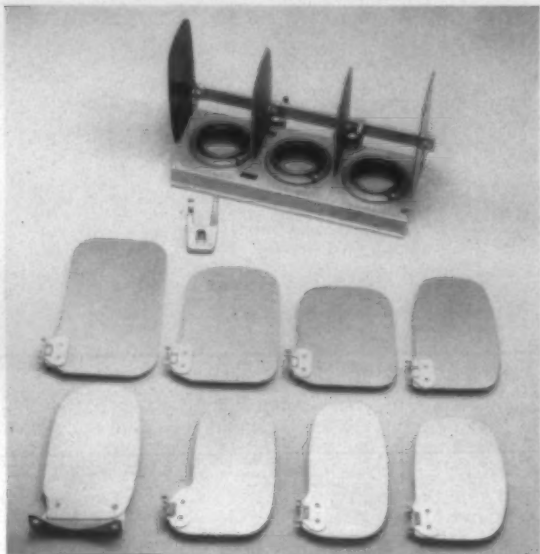
Productive maintenance is money well spent and can make a vital contribution to profitable operation. This being so, one wonders why such a system is not universally used by our manufacturing industries. While we can't cover all of the reasons why sound maintenance programs have not been put into effect, we can discuss a few of those which are commonly used.

**Reason No. 1**—Management looks on maintenance as an expense item which must be kept to a minimum, especially when business is slow. Productive maintenance preaches that money spent for maintenance should *add to profits*, not constitute a *drag on profits*. When expensive

Productive maintenance differs from "oil can maintenance" and the usual "preventive maintenance" programs discussed so often. This article gives the steps in a well designed productive maintenance program and lists commonly given reasons why sound maintenance programs have not been put into effect.

\*General Electric Co., Schenectady, N. Y.

\* This paper was delivered last Fall by Mr. Sutton at the American Institute for Electrical Engineering's Conference on Electrical Equipment for the Textile Industry at North Carolina State College, Raleigh.



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machinery is idle for repairs, it certainly cannot earn money for its owners. It follows then that whatever maintenance system is used should concentrate on keeping unplanned downtime to a minimum. Management must be sold on the idea that maintenance is an item of cost to be pro-rated over the number of units produced from a given plant or a given piece of machinery. If more money spent for maintenance can increase the total output from a given machine at a lower per unit cost, then the maintenance money should definitely be spent.

**Reason No. 2**—What is the correct amount of money to spend on maintenance? There's obviously no hard and fast answer to this question since it will vary from plant to plant depending on many things—such as the commodity produced, type and age of equipment, etc. A real productive maintenance program is not something that is practiced this year and then forgotten. Productive maintenance is a continuing program and to be effective it must be fairly long-range in its planning and practice.

For example, an analysis of a given plant may show that approximately \$500,000 should be spent on maintenance and overhaul just as soon as possible. On the other hand, the economic factors of life may prohibit the spending of any such sum of money in a 12-month period. Practical factors might dictate that this \$500,000 program be spread over a period of five to ten years.

The most critical points in the order of their importance to continuing production should be fixed up first. However, it is fatal to leave the program hanging in mid-air as a short-range economy move.

**Reason No. 3**—Some manufacturing plants perform all of their equipment repair work using their own personnel in their own repair shop. Because of the apparent availability of quick repair work in their own plant, this is used as an excuse for not putting in a well thought out and carefully controlled maintenance program. In general, the cost of major equipment repairs performed in anybody's captive shop will, in the long run, prove to be more expensive than when the same repairs are made by an outside commercial shop which specializes in the repair of such equipment. It must be kept in mind that profit and competition are both lacking in the captive shop whereas they are the driving motives in the commercial repair shop. The commercial shop must give outstanding service at fair prices in order to hold its customers in the face of very severe competition. The captive shop has, of course, a captive customer as well. Normally it can't lose its customer because of poor service.

**Reason No. 4**—"We don't need a regular system because we just maintain whenever maintenance is needed." Usually when maintenance is needed, the damage is already done and the machine has already been shut down unexpectedly. One of the reasons for success in maintenance is to maintain on a regular scheduled basis. For example, in recent years, many large plants have been using the annual plant shutdown as the time to call in experts to check over and inspect all critical equipment and to make necessary modifications and repairs during the planned shutdown. Likewise, the major electrical utilities have for years scheduled and planned outages for their major turbine generator sets so that the machines could be cleaned up, modernized and minor repairs made on a planned basis.



**Reason No. 5**—Responsibility for maintenance decisions at too low a level. As plants utilize more, larger and more complicated machinery, it becomes essential that the responsibility for maintenance planning and decision-making be concentrated at a high level in the organization. In today's modern plant, improper maintenance can affect costs, profits, customer relations, sales volume, competitive position, etc.

It follows therefore that the one person responsible for a maintenance program should have a position in the organization where he has full access to engineering requirements, profit picture, purchase of incoming raw material, sales figures, competitive position, etc. No longer can maintenance responsibility be assigned to the man with a grease rag and an oil can.

The person responsible for a successful maintenance program must know when to repair and when to purchase new equipment. He must be familiar with tax laws, depreciation factors, the cost of carrying inventory as well as the actual cost and effect on profits of carrying spare parts. The man responsible doesn't have to be the executive vice-president but if he is—it helps!

### A.T.M.A. Announces Committee Appointments

The American Textile Machinery Association is giving new emphasis to its plans for increased membership, better public relations and continued sound development of its 1950 International Machinery Show, with important appointments to three committees. Following a recent meeting of the board of directors, President William K. Child, who is vice-president of Draper Corp., Hopedale, Mass., announced that James H. Hunter, president of the James Hunter Machine Co., North Adams, Mass., would head up A.T.M.A.'s membership committee. A.T.M.A. has changed its constitution and by-laws to include associate memberships, thereby broadening the working base of the organization. More than a dozen new members have been accepted since the by-laws change was made.

Mr. Child announced at the same time that Robert Pennock, vice-president in charge of sales, Universal Winding Co., Providence, R. I., would replace Robert Leeson on the exhibition committee. Leeson, president of Universal Winding Co., has recently been elected vice-president of A.T.M.A. J. Woodward Hubbard, general sales manager, Saco-Lowell Shops, Easley, S. C., has been appointed to the exhibition committee. The committee, now engaged in extensive plans for the A.T.M.A. sponsored exhibition to be held in Atlantic City, 1960, is headed by J. H. Bolton Jr., vice-president, Whitin Machine Works, Whitinsville, Mass.

Albert F. Koepcke, director of industrial and public relations and advertising, Saco-Lowell Shops, has been appointed to serve on A.T.M.A.'s public relations committee. The chairman of this committee is George McRoberts, advertising manager, Whitin Machine Works.

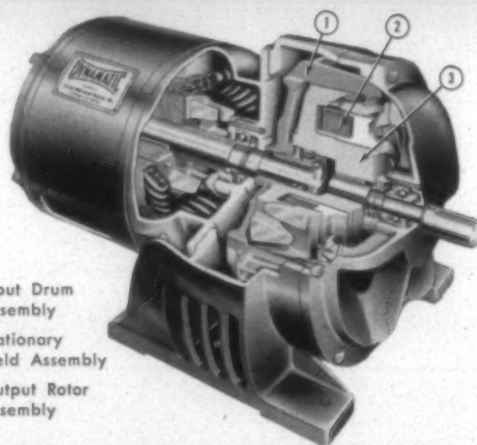
### Carolina Yarn Association To Hold 29th Outing

The Carolina Yarn Association has announced that it will hold its 29th annual outing May 14-16 at Pinehurst, N. C. The all-play and no-work outing will feature golf, skeet and other entertainment. As usual golf winners will be determined by application of the Callaway handicapping system to the scores. The Lewis classification will be used for skeet.

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# A Review Of The Pastore Subcommittee Recommendations

By SENATOR STROM THURMOND

**B**Y now, you are all familiar with the report of the Pastore Senate Subcommittee. There were three principal factors which guided our subcommittee in the considerations which led to our report. The first was the necessity for unanimity. We realized that if our small subcommittee could not agree on the conclusions to be drawn from the voluminous testimony taken, we could hardly expect the Congress, the administration, or any other group, to use the report as a basis for improving the lot of the domestic textile industry. The desire for accord, based on objectivity, was the first factor underlying our deliberations.

## No Major Compromises

The desires for unanimity, and its ultimate achievement, did not result in major compromises. While each member of the subcommittee, if he had been solely responsible for the report, might have somewhat altered the emphasis placed on the various subjects of the recommendations, I am satisfied that no member compromised on any principle. Rather, our desire for unanimity prompted a more objective approach and resulted in recommendations in which all members fully concurred.

The second influence which guided our thoughts was the necessity for arriving at *practical* recommendations. In order to be practical, both procedural and substantive obstacles to implementation had to be taken into account. Broad and general recommendations might make more pleasant reading, and possibly indicate higher aims, but it was the conclusion of the subcommittee that its recommendations should be specific and *probable* of implementation and not just possible.

The third thing with which we were impressed was the necessity for speed. We were thoroughly acquainted with the problems of the industry and the need for immediate improvement of the conditions which fostered those problems. It is obvious that the problems we found were continually increasing in perplexity and some immediate check and reversal of this trend was vital.

At this point I would like to comment on the conclusions, three in number, which we reached. At first glance, many of you might think that the conclusions were obvious even before the study was undertaken. I, myself, was aware, prior to the investigation, that these conclusions, generally, were substantiated by fact. Nevertheless, we felt that the study would have been well worthwhile even if nothing

more were accomplished by it than a unanimous positive statement, substantiated unequivocally, to the effect that:

First, the domestic textile industry was lagging behind other segments of the economy; second, that the seriousness of the domestic textile industry's condition affected the general peace-time economy of the country to such an extent that Congress and the administration should act to alleviate the problem; and third, that the textile industry was a vitally essential part of our war mobilization base.

In the final analysis, the study justified an even stronger statement of these conclusions, as is illustrated by the finding of the Department of Defense that textiles ranked second only to steel in terms of military essentiality.

These conclusions, backed by unquestionable facts and statistics, are the armament with which we must seek to win the battle for the implementation of the recommendations, and eventually, the return of the domestic textile industry into a healthy, vigorous, and growing segment of our manufacturing economy.

I am quite sure that the other sponsors of Senate Resolution 287, which authorized the study, would agree with me that the resolution was prompted by a belief that the condition of the domestic textile industry was affected adversely by various Federal Government programs and policies. Despite the industry's essentiality, in both peace and war, there was no thought of substituting, to any degree, the judgment of Congress or the administration for that of those, including you, who, in the operation of a free enterprise, determine the competitive pace for the industry. On the contrary, the aim of the study was to determine to what degree various Government programs and policies were unfairly and adversely affecting this particular industry, and to seek a correction of whatever inequities were discovered to exist as a result of these programs and policies.

## Practical Recommendations

It is quite obvious from a reading of them that the recommendations of the subcommittee deal exclusively with Government action. It is just as obvious that the recommendations are broad in coverage and are, although practical, at the same time ambitious. Nonetheless, we recognized, and you should recognize, that essentially, the fate of the textile industry is in your hands and the hands of those who work with you in the textile industry. Neither the committee, nor Congress, nor the Federal Government, by the action which has been taken or which will be taken as a result of this study, has assumed responsibility for the fate of the textile industry. Whatever will be done in the way of implementation of the recommendations, including

This review of the findings of the Pastore Senate Subcommittee in its study of the domestic textile industry was given by Senator Thurmond at last month's tenth anniversary meeting of the American Cotton Manufacturers Institute. As a member of this subcommittee, Senator Thurmond emphasizes the fact that much work remains to be done before these recommendations can be implemented by the various government agencies concerned.

research, will be in the way of assistance to the industry. To the extent you have been unjustly and inequitably handicapped by governmental policies, we seek to assist in relieving you.

The fact that our recommendations are directed solely at Government action should not lead you to conclude that we on the subcommittee completed the study unaware that problems existed which only the industry can solve. You have, as you must know, our interest and understanding in seeking to solve these problems which are without the scope of governmental activity. In the final analysis, however, the solutions to these problems depend on your leadership, which to succeed must be dynamic and imaginative. You have shown such leadership in the past and you must continue to provide it, possibly to an even greater extent, as your problems are magnified.

Keeping in mind, then, that they deal with the problems of the domestic textile industry only insofar as those problems are magnified by governmental action, let us briefly review the specific recommendations. As stated previously, practicability was a major factor in reaching the recommendations. As a result, to the maximum degree possible, the recommendations are capable of implementation by administrative, rather than legislative action. As difficult as the former may be to obtain, it can be obtained by degree and more easily than legislative action, as I am sure most of you realize by this time. If there be any doubt, one needs but to examine the results of our strenuous efforts to soften the blow of low-wage foreign imports on domestic industries when the Trade Extension Act was before Congress last year.

#### First Recommendation

##### (No Legislation Required)

The first recommendation comes to grip with the basic fact that governmental programs, and particularly the policies and attitudes which guide the administration of those programs, are adversely affecting the domestic textile industry. To a large extent, we feel that these attitudes and policies result from a lack of understanding and appreciation of their results on the domestic textile industry, and through them, on the domestic economy as a whole. In order to stimulate a new attitude and approach in the administration of programs affecting textiles, we recommended the establishment of a permanent interagency committee, within the Department of Commerce, with representatives from the Departments of Commerce, Agriculture, Defense, Labor, State and Treasury, as well as representatives from the International Co-Operation Administration, Office of Civilian Defense Mobilization and the Tariff Commission. *No legislation is necessary to implement this recommendation.*

Neither the Advisory Committee to the Textile Interagency Committee, nor the special Textile Subcommittee of the Interstate and Foreign Commerce Committee of the Senate require legislation for their establishment. I might add that the latter has already been appointed and is identical in membership to the study Subcommittee.

#### Second Recommendation

##### (No Legislation Required)

The study revealed a substantial need for the collection

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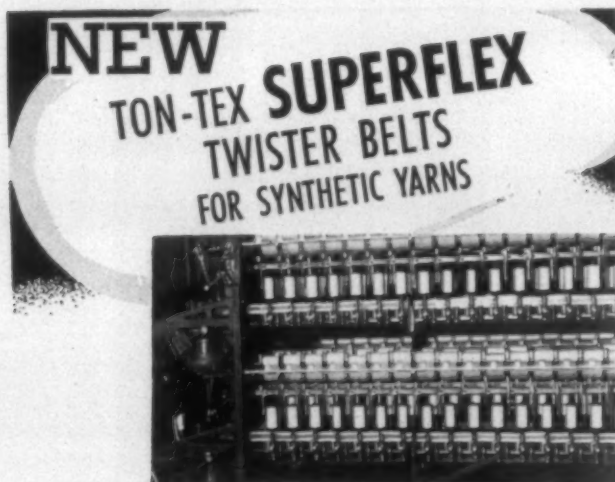
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and dissemination of statistical data on many phases of the textile industry. While realizing danger of regulation inherent in any Federal Government action, it seems equally clear that this is a function and service which an agency of government, specifically the Department of Commerce, is singularly capable of performing and providing without ill effects to the private enterprise system. The function can be accomplished without legislative action. We should clearly recognize that the success of this program will depend, to no small degree, on the co-operation of the industry and its ultimate utilization of the service.

### Third Recommendation

#### (May Require Legislation)

The third recommendation is in answer to the most vigorous complaint of domestic textiles: that import quotas should be established by specific category of textiles. Most of you will agree, I am sure, that this is the recommendation with the broadest implication of relief for the domestic textile industry, and at the same time, is probably the most difficult to implement.

The avenue of approach to implementation of this recommendation which has the best chance of success is again through administrative channels; to wit, either through action under Section 22 of the Agriculture Adjustment Act or as a result of action instigated by the Secretary of Commerce and the Textile Interagency Committee.

In the event of failure to accomplish the establishment of quotas by administrative action, there will be no alternative to a renewed attempt for legislative action. In view of the almost insurmountable educational task which must precede such an attempt, if it is to be successful, every effort toward administrative action must be exhausted before legislative remedies are sought. An abortive legislative effort for quotas could possibly nullify the progress represented by the textile report.

### Recommendations Four & Five

#### (No Legislation Required)

Recommendations four and five are directed specifically at obtaining a review of the policies which guide the administration of the country's foreign aid program and the escape clause of the Trade Act, respectively. You may be assured that the Textile Subcommittee of the Senate Commerce Committee will follow up with inquiries on compliance with these recommendations.

### Sixth Recommendation

#### (Legislation Required)

The utilization of a portion of custom duties collected on textile imports for research in textiles can be obtained only through legislation. The magnitude of this program is a matter which will require further study by the Interagency Committee, but as soon as this is accomplished, I assure you that the legislative effort will be made. I, personally, have high hopes for its success.

### Seventh Recommendation

#### (No Legislation Required)

Outmoded depreciation rates can be revised by administrative action of the Internal Revenue Service. A meeting of



our Textile Subcommittee with representatives of the Treasury Department has tentatively been scheduled for early in April. By this time, the Internal Revenue Service should have had time to thoroughly consider and plan action on our recommendations.

#### Eighth Recommendation

##### (No Legislation Required)

Further action on the eighth recommendation that the Finance Committee review the loss carry-forward and carry-back provisions of the Internal Revenue Code, is exclusively up to the judgment of that committee, and any change of provisions must await any study the members of the Finance Committee deem advisable.

#### Ninth Recommendation

##### (Legislation Required)

The fact that our ninth recommendation is somewhat of an "either-or" approach is once again the result of attempting to be practicable. The tremendous disadvantage to domestic manufacturers of cotton textiles created by two-priced cotton has long been evident. Efforts to eliminate this differential have nevertheless been unsuccessful. While the chances for legislative action necessary to eliminate it improve daily, the date when legislative efforts will be fruitful may still be some time off. In the meantime, the effects of the two-price system on cotton can be compensated for by adjusted tariffs on imported cotton products. The imposition of these tariffs can and must be obtained

administratively. Once again, Section 22 of the Agriculture Adjustment Act appears to contain the best approach.

#### Tenth Recommendation

##### (No Legislation Required)

The last recommendation seeks a review, in the interest of consistency, by the Foreign Assets Control Division of the Treasury Department, of its policy regarding importation of certain partly-processed textile fibers. Here, too, the Textile Subcommittee will follow up to assure the review.

This brief discussion of the recommendations should make two facts crystal clear.

**First, the fight to eliminate the adverse effects of governmental policy on the domestic textile industry has only just begun. There is still ahead a long uphill struggle.**

**Second, the progress made so far in no way shifts the ultimate burden of responsibility from the shoulders of the textile industry itself.**

We on the Textile Subcommittee have done our utmost, and I know I speak for Senators Pastore and Cotton when I say we will continue our efforts unabated. Our efforts will be directed at creating a Federal policy devoid of discriminatory features toward the domestic textile industry, so that you will have the opportunity, in the free enterprise tradition, to promote the industrial strength and growth vital to the many thousands of people, who rely on textiles for their livelihood, and, indeed, to all Americans.



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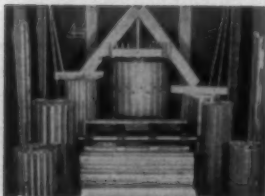
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## **Fiber Society Program Set For April 29-30**

A textile educator's appraisal of the problems which face his field, a discussion of the space era by a leader in Air Force research, and seven technical papers in fiber science are highlights of the program scheduled for the Spring meeting of the Fiber Society at Fontana Village, N. C., April 29-30. Dr. Martin J. Lydon, president of Lowell Technological Institute, will discuss "Science, Engineering and Textile Education," and the new challenges in education the textile industry faces as modern technology advances. This is a subject under intense study by textile educators and one of particular interest to the Fiber Society.

The Air Force speaker will be Dr. Harris M. Brute, Wright-Patterson Air Force Base, Ohio. In his talk, "Materials Research—The Key to Progress in Aeronautics and Astronautics," he will discuss some of the more important research requirements surrounding the Air Force materials program. Although Dr. Brute has engaged in government work for a number of years, he is no newcomer to fiber research areas. He served with the Textile Research Institute from 1947 to 1953 and is a Graduate Fellow of that institute.

The technical papers during the two-day meeting will include: "The Stabilizer in Hydrogen Peroxide Bleaching," by David M. Gates, North Carolina State College, School of Textiles, Raleigh; "Continuous and Time-Lapse Motion Pictures Through the Microscope," by Henry E. Millson, American Cyanamid Co., Bound Brook, N. J.; "Response of Several Cottons to Chemical Treatments," by L. Rebenfeld, Textile Research Institute, Princeton, N. J.; "Stress-Strain Behavior of Nylon in Tension and Compression," by John B. Miles, Chemstrand Corp., Decatur, Ala.; "Theory of Fiber Friction," by Henry M. Morgan, Fabric Research Laboratories Inc., Dedham, Mass.; "Production of Fibers by Spraying," by Derek E. Till, Arthur D. Little Inc., Cambridge, Mass.; and "The Characterization of Fabric Streaks," by Ferdinand Schulze, The Du Pont Co., Wilmington, Del.

## **Clemson Offers Summer Textile Courses**

Advance registration for a five-course Summer program in textiles at Clemson College has been encouraging, says Dean Gaston Gage of the School of Textiles. There is early evidence, he relates, that the South Carolina industry is cognizant of an opportunity to assist the "large numbers of young men who choose textiles as careers without having attended a technological college."

Many textile companies have employed exceptionally competent graduates in liberal arts colleges, cites Dean Gage, who will benefit inestimably from a three-to-six week short course program. Short courses will begin June 15 in yarn manufacturing; July 6 in fabric development and supervision development; July 15 in motion and time study, and July 27 in quality control. Each course will be presented as a full-time program, running for three weeks with no classes on Friday afternoon or Saturday mornings. No entrance examinations, nor college credit will be given.

Courses will stress, Dean Gage says, what the textile man is "least apt to learn" on a training program in the plant, or by experience. Information on the course schedule, which allows a participant to enroll in more than one course at a time, and on planned content of each course has been made available to plant management in South Carolina.

## Cotton Research Clinic Program Announced

A discussion of the 1958 ginning-spinning tests performed at Joanna (S. C.) Cotton Mills Co. will be one of highlights of the tenth annual Cotton Research Clinic sponsored by the National Cotton Council on May 12-14 at the Grove Park Inn, Asheville, N. C. Also featured at the clinic will be discussions on new mill machinery and cotton processing. J. M. Cheatham, president, Dundee Mills, Griffin, Ga., will be clinic general chairman.

Chairman and moderator of the first session, a panel discussion on cotton quality evaluation, will be George S. Buck Jr., assistant to the council executive vice-president for research. At this session the following papers will be presented: "Cotton Selection and Ginning Conditions," Vernon P. Moore, of the council production and marketing staff; "Effects on Fiber Properties," John E. Ross, U. S. Department of Agriculture, Stoneville, Miss. Also to be presented at the first session will be: "Mill Processing Conditions," Joseph L. Delany, Joanna Cotton Mills Co., "Test Results," John E. Ross, Stoneville, Miss., "Effects on Finished Fabrics," James N. Grant, U.S.D.A. Southern Utilization Research and Development Division, New Orleans; and "Pilot Spinning Laboratory," Wilbur T. Pentzer, U.S.D.A., Washington, D. C.

The second session on Tuesday, May 12, under chairman Willard W. McLeod, vice-president, Coats & Clark Inc., will include: "The Effect of Short Fibers on Spinning Performance," John D. Tallant, S.U.R.D.D.; "A Test for Spinnability of Cotton," Samuel T. Burley Jr., U.S.D.A., Washington; and "A Miniature Test for Evaluating Cot-

ton," Charles B. Landstreet, U.S.D.A. Cotton Field Station, Knoxville, Tenn.

On Wednesday, under session chairman Robert W. Smith, vice-president, Lowenstein Cotton & Storage Corp., Anderson, S. C., the following papers will be presented: "The Effects of Blending Cottons of Different Fiber Properties," Louis A. Fiori, S.U.R.D.D., New Orleans; "Large Scale Commercial Blending," Otto Goedecke, Otto Goedecke Inc., Hallettsville, Tex.; and "Massive Cotton Blending for Mill Production," David E. Howe, vice-president, The American Thread Co., New York, N. Y.

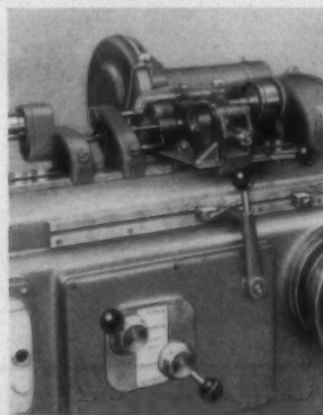
The final session on Thursday, May 14, will be chaired by E. A. Bentley, vice-president, Swift Mfg. Co., Columbus, Ga., and will include: "The Continuous Flow Cleaning Line," Louis Platt, Saco-Lowell Research Center, Biddeford, Me.; "Design of the S.R.R.L. Granular Card," A. L. Miller, S.U.R.D.D., New Orleans; "Preliminary Mill Evaluation of the S.R.R.L. Card," G. T. Callaway, Avondale Mills, Sylacauga, Ala.; and "A Study of Cotton Comb-  
ing." John F. Bogdan, North Carolina State College

## Safety Council Cites 1958 Statistics

The National Safety Council has announced in its final bulletin on the 1958 safety contest that the number of injuries reported was 16% lower than 1957. There was a 9% decrease in final rate compared with 1957. Of the 227 contestants completing the contest, 52 had perfect records at the end of the 12-month period. The contestants worked a total of 423,717,000 man-hours. The total number of injuries recorded during the 1958 contest was 1,588.

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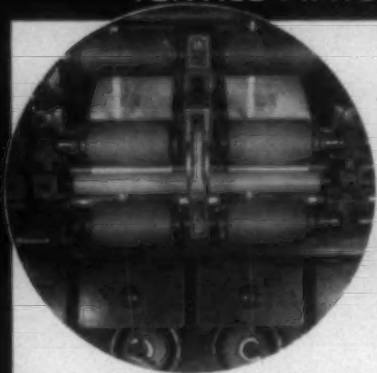
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## Alabama Textile Men Elect Johnson



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In an eventful three-day meeting in Biloxi, Miss., April 8-10, members of the Alabama Textile Manufacturers Association heard of the increasing threat of textiles coming from Red China, were advised how to compete with labor unions in winning the minds of their workers and gave their support to the McClelland-Barden Bill to amend the Taft-Hartley Act.

Erwin R. Lehmann, retiring president of the association, told the group that the entire cotton textile industry is going to be in for a fight if the Red Chinese engage in an all-out economic war with cotton and textiles as their main weapon, as is predicted by some. Lehmann pointed out that the Chinese are underselling the Japanese by 10%. He called for a strengthening of merchandising methods and promotional procedures. Better market research and more aggressive selling should help the situation, he said.

Speaking to the group on the closing day, Dr. George Heaton, former Baptist minister and now industrial relations worker, told the gathering that management must prove to its workers that it is just as interested in them as in the customer. It must make workers feel that management has a more sincere interest in them than does the labor union. Speaking on the same day, Governor John Patterson of Alabama emphasized the importance of the textile industry to the state. He pledged to support the textile industry in "every way possible."

Among the business transacted by the group was the endorsing of the McClelland-Barden Bill to amend the Taft-Hartley Act. The Alabama congressional delegation was requested to oppose the Kennedy-Erwin Bill and to support the McClelland measure.

Paul Watkins, traffic manager of the Textile Traffic Association, reviewed rail, motor and Railway Express rate changes during the year. He also reviewed new legislation both national and state that will affect textile shippers. The annual banquet Friday evening was highlighted by the presentation of Alabama's 1959 Maid of Cotton, Miss Annette Hall of Georgiana, Ala.

Joel E. Johnson, vice-president of Geneva-Bama Cotton Mills, Geneva, Ala., was chosen to head the organization for the coming year. Johnson is also a director of Colonial Products Co., Geneva, and is a vice-president and director of the Citizens Bank of Geneva. He attended Alabama Polytechnic Institute at Auburn and the University of Alabama at Tuscaloosa, where he received an L. L. B. Donald J. Comer Jr., executive vice-president of Avondale Mills, Birmingham, was elected vice-president. Comer is also president and treasurer of Cowikee Mills, Eufaula, and is a director of the First National Bank of Birmingham. He is a graduate of the University of North Carolina. Sidney Tingen, West Boylston Mfg. Co., Montgomery, was named treasurer of the association.

## T.R.I. Officers Chosen

The board of directors of Textile Research Institute, Princeton, N. J., elected new officers at their meeting last month. William E. Clark, vice-president and general manager of the textile division of U. S. Rubber Co., New York City, was named chairman of the board. Chosen vice-president of the board was Russell W. Peterson, director of the textile and industrial products research division of The Du Pont Co., Wilmington, Del. Bruce B. Allen, technical director of the textile division of the Celanese Corp. of America, Charlotte, N. C., was named chairman of the finance committee. The newly elected operations officers are: John Dillion, T.R.I., president; and Paul C. Alford, T.R.I., secretary-treasurer.

## American Cotton Congress Session Slated

The 20th annual American Cotton Congress has been scheduled for May 4-5 in the Roosevelt Hotel, Waco, Tex. The program features top speakers from the textile industry and government. The general theme of the session is "20 Years of Change and Progress."

## U. S. Firms Seek Russian Business

While representatives of four major textile machinery firms in this country were busy talking with Moscow officials recently about the possible sale of American Machinery to Russian mills, a Russian trade delegation was placing orders for \$300 million worth of equipment for the textile, chemical and plastics industries with countries in Western Europe.

The U. S. firms are: Whitin Machine Works, Whitinsville, Mass.; Crompton & Knowles Corp., Worcester, Mass.; James Hunter Machine Co., North Adams, Mass.; and Rodney Hunt Machine Co., Orange, Mass. They were negotiating with the Gosplan division of Tecknopromimport; the Russian agency which handles their textile industry. No agreements were reached and discussions were expected to resume within a month.

During part of the time the discussions were being held, a touring Russian trade delegation placed about 40 contracts for \$300 million worth of machinery with Western Europe. The Soviet Union has also placed an \$840,000 order with Ernest Scragg & Sons Ltd., Macclesfield, England, producer of yarn twisting and texturing machinery. The Russian delegation is placing orders principally for full equipped plants together with accompanying technological knowledge.

## Arbitration Facilities Expanding

Expansion of arbitration facilities of the cotton and man-made fiber textile, apparel and related industries to embrace all branches through a single organization will be accomplished by May 1. This results from affiliation with the General Arbitration Council of the Textile Industry of the Arbitration Bureau of the old National Federation of Textiles, operated in the past year by the American Cotton Manufacturers Institute.

The enlarged General Arbitration Council of the Textile Industry, under that name, will be conducted with H. A. Sherman continuing as its executive head, with the title

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of secretary and treasurer, and a staff of administrators comprising those now employed by the Council and the Bureau. Headquarters will be consolidated on or about May 1 in the Salmon Tower Building, 11 West 42nd Street, New York City.

Further broadening its scope is the council's election as a member of the expanded Council of the Textile Distributors Institute. Sixteen other trade organizations extending from yarn spinners, mills, merchants and converters through finishing, garment manufacturing, wholesaling, purchasing agents, and thread and knitgoods manufacture continue as sponsors. This assures industry-wide facilities for the settlement of disputes by processes of arbitration established in the textile industry many years ago and formulized in the organization of General Arbitration Council in 1930.

### Japanese Exports To U. S. Drop

Exports of cotton fabrics from Japan to the U. S. in February dropped about 9% below the February 1958 level following a tremendous rise in January. Shipments in February were 8.6 million yards compared with 15.6 million yards in January and 9.3 million in February 1958. Exports of greige shirtings and sheetings and of gingham reverted to more normal levels in February after showing sharp rises in January. Other yarn-dyed goods showed increases and velveteen and corduroy were negligible.

### Broad Woven Cotton Production Up

Cotton broad woven fabrics production in the fourth quarter of 1958 was 11% above the previous quarter and approximately the same as the fourth quarter 1957 level, according to figures given by the U. S. Department of Commerce. Production of the major fabric classes showed increases ranging from 7 to 22% above the previous quarter.

Print cloth yarn fabrics and colored yarn fabrics showed decreases of 8 and 2%, respectively, from the 1957 fourth quarter level. Production for the remaining fabric classes increased 2 to 17% from the 1957 fourth quarter level. The classification of broad woven covers goods over 12 inches in width.

As of January 3, 317,862 looms were in operation producing cotton broad woven goods. Yarn consumption by mills producing these goods totalled 782 million pounds in the fourth quarter as compared with 745 million pounds in the fourth quarter of 1957.

### Woolen And Worsted Consumption Up

The weekly average rate of fiber consumption of the woolen and worsted systems in February was 6% above the January rate and 31% above that of February 1958. The weekly average raw wool consumption during February was 8.7 million pounds (scoured basis) or 1% above the January level, and 44% above the February 1958 level. Consumption of apparel class wool was 2% above the January level and 31% above that of February 1958.

Consumption of carpet class wool was 1% above the rate of the preceding month and 68% above the February 1958 level. Consumption of fibers other than raw wool averaged 6.8 million or 13% above the January average and 16% above February 1958. These figures include production of man-made fiber tow converted to top without



combing. Total fiber consumption also includes this top production. All figures are from the U. S. Department of Commerce.

### Woolen And Worsted Production Up

Woolen and worsted fabric production during the fourth quarter of 1958 was 68.8 million finished linear yards. This was 3% below the third quarter 1958 output, but approximately 12% above the comparable period of the previous year.

The output of women's and children's clothing fabrics at 34.5 million finished linear yards was 15% below that of the previous period, but 10% above the output of the fourth quarter 1957. Men's and boys' clothing fabric production increased 15% during the fourth quarter to 30.2 million finished linear yards.

Output of nonapparel fabrics was 2% above the previous quarter. Production of blanketing increased 5% to approximately 1.9 million linear yards. Production of transportation upholstery and other nonapparel fabrics amounted to 0.7 million yards during the fourth quarter of 1958.

### Synthetic Fabric Production Up

Production of broad woven goods of man-made fibers and silk was 621 million linear yards during the fourth quarter of 1958, according to the U. S. Department of Commerce. This was 6% above the third quarter 1958 level and 7% above the fourth quarter 1957 output. Rayon and acetate fabric production at 424 million yards was 3% above the previous quarter and 13½ more than the output during the comparable period of 1957. As of January '3 there were 84,547 looms operating on man-made fiber and silk broad woven goods. Yarn consumption by mills producing these fabrics for the fourth quarter totalled 189 million pounds.

### Textile Workers' Wages Increase

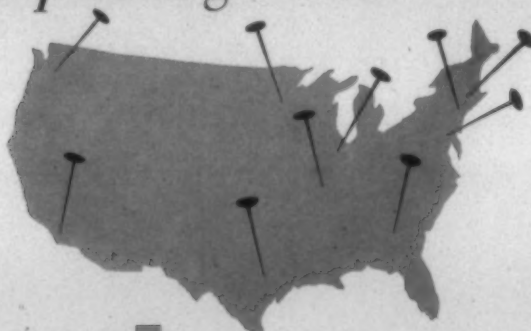
An increase of three cents in the average hourly earnings of production workers in the textile mill products industry between February and March was recorded by the Bureau of Labor Statistics. The average work week during the period remained unchanged. The average weekly wage of these workers was \$62.87 in March against \$61.66 in February. The average work week remained at 40.3 hours. Hourly earnings increased from \$1.53 to \$1.56. Production worker employment in the industry was up to 866,100 in March from 859,300 in February.

### Avisco Announces Avron Fabric Program

A new family of fabrics using Avisco XL rayon has been announced by George L. Storm, vice-president of American Viscose Corp. Avron is the corporation's trade mark for fabrics made of 100% Avisco high strength rayon or in blends with other fibers. Avron fabrics planned for apparel markets are: cotton warp XL filled lawns, broadcloths, poplins and corduroys as well as fine-woven challis and suitings made of blends with the newer man-made fibers.

In the home furnishings field, Avron is expected to be important in drapery and upholstery fabrics where fine yarns with high tensile strength are so necessary. The great advantage in using Avisco XL rayon is found in increased

## Pinpointing textile orders



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tensile strength. This fiber has 40% more dry and 60% more wet tensile strength than regular rayon. Avron wash-and-wear fabrics, using cotton and Avisco XL fibers, have between 75% and 100% greater tensile strength than 100% cotton fabrics. An important group of Avron fabrics are Avisco XL blends with the newer synthetics. These are made of fine-count yarns never before possible.

Another advantage of Avron fabrics is a soft, luxurious hand. Avisco XL lends strength to the sheerest fabrics. Conventional cotton lawns and broadcloths cannot take a resin finish and still maintain adequate strength. Avron fabrics can be made with wash-and-wear finishes and still keep needed tensile strength, according to the company.

### Japanese Spinners To Decrease Production

Representatives of various spinners' associations in Japan have decided on a plan to remove machines from production May 1, and store them for one year. The move is an effort to bring production into line with demand. Planned cuts are: cotton—1,258,600 spindles, or 15% of present operating equipment; woolen system—192,148 spindles, also 15%; rayon—375,000 spindles, also 15%; synthetic fibers—10% of active spindles to be stored for a period of six months.

### Dan River Scholarships Announced

D. A. Overbey Jr., general manager of the Riverdan Benevolent Fund Inc., and chairman of the Riverdan Scholarship Committee of Dan River Mills, Danville, Va., has announced that scholarships ranging in length from

one to four years and worth a maximum of \$750 each year have been awarded seven outstanding young men and women in the Danville area. Winners of 1959 scholarships were chosen on the basis of scholastic achievement, leadership qualities, character and financial need.

The awarding of these seven 1959 scholarships brings to 18 the total number of college scholarships of varying length awarded by Riverdan since the inception of the program in 1957, Dan River's 75th year. This year's selections—limited by the rules to Dan River employees and their sons and daughters—were made by a committee composed of the general manager of Riverdan, chairman, two members of the Dan River organization, and a local educator.

### Wool Bicentennial To Be Celebrated

Two hundred years of wool manufacturing in this country will be celebrated throughout the U. S. during 1960, according to Woolens & Worsteds of America Inc. The group has launched plans for the industry's national American Wool Bicentennial. The observance marks the beginning of American mill operations for wool cloth production.

The Bicentennial celebration is a high point of the long-range, industry-wide American wool informational program being conducted by Woolens & Worsteds of America. The association represents every facet of the industry from sheep to shop, and including wool growers, textile mills, combers, carders, spinners, weavers, knitters, dyers, finishers, and other processors; designers and manufacturers of American-made wool products, and wholesalers and retailers.

Promotions, Resignations, Honors,  
Transfers, Appointments, Elections,  
Civic and Associational Activities

## PERSONAL NEWS

Frank C. Bennett has been elected president and treasurer of Anniston (Ala.) Mfg. Co. succeeding W. B. Pennington who plans to retire.

Julian T. Baker has been named executive vice-president of Virginia Mills, Swepsonville, N. C. Baker previously served as vice-president and treasurer of the company.

George I. Simpson, general manager of the yarn division of Collins & Aikman Corp., and W. H. Sparks, general manager of the company's Mayfair Carpet Division, have been named vice-presidents.

Roger Milliken, president of Pacolet (S. C.) Mfg. Co., has been appointed one of three Spartanburg County members on the new Spartanburg-Greenville Jetport Commission.

Everett Drake, new president of M. Lowenstein & Sons, will be the guest of honor at a textile industry-wide luncheon May 13 at the Masonic Club, 71 West 23rd Street, New York City.

C. Howard Leveritt has been appointed direct factory sales and service representative of the industrial division of Manton-Gaulin Mfg. Co. Leveritt will headquarter in Decatur, Ga. and will serve the 11 Southern states.

Thomas W. Borland has been elected president and treasurer of Carlton Yarn Mills, Cherryville, N. C. For the past 19 years Borland has served as general manager of the company's Cartex mill division at Salisbury. For the past 13 years he has served as a vice-president and director. . . . Edward H. Largen of Charlotte has been

named vice-president of the mill. He will also hold the position of assistant to the president. For the past six years Largen has served as a Southern yarn salesman for the company. Ben R. Rudisill, formerly president, and Jack H. Scott, formerly assistant to the president, were both killed in a recent plane crash.

Lester M. Cole, general sales manager of the Warner & Swasey Co., has been elected vice-president in charge of sales of the company. In his new position, Cole will direct all sales activities of Warner & Swasey's machine tool division, as well as those of the company's textile machinery division.

Stephen B. Neiley has been named engineering manager of the textile division of Dewey & Almy Chemical Division, W. R.

Grace & Co., Cambridge, Mass. Neiley, who has been manager of Dewey & Almy's Adams plant since the plant was established in 1946, will take up his new duties May 1 at Cambridge. He fills a newly-created position.

Ellis H. Wilner of Henry Glass & Co. has been elected president of the Textile Fabrics Association for his third term; Jerome W. Blum, Cohn-Hall-Marx Co., has been elected first vice-president of the association; N. Ross MacCullum, American Bleached Goods Co., has been elected second vice-president; Edgar G. Minton has been named treasurer; and Joseph Kahn Jr., Jacob S. Burnheimer & Bro., has been elected secretary.

Two sales engineers have been added to the staff of Roberts Co., spinning machinery manufacturer of Sanford, N. C. They are Edward W. Blackwood of Mount Holly, N. C., and G. P. (Jack) Stanley of Greenville, S. C. Blackwood's territory will center around the central and western North Carolina area, and Stanley's includes western



E. W. Blackwood



G. P. Stanley

South Carolina. Blackwood was formerly with Globe Mills Co. in Mount Holly, in the supervision of yarn manufacturing, quality control, and technical service in sales. He had previously been with American & Ebird Mills as general superintendent of their five mills in Albemarle, N. C. Stanley, a native of Greenville, was most recently a manufacturers' agent in that city. He had for six years previously been South Carolina representative of Meadows Mfg. Co., specializing in spinning and twister conversions.

Edward S. Pierce, vice-president of H. W. Butterworth & Sons Co. Division of Van Norman Industries Inc., has resigned. Pierce joined the company, builder of textile machinery, in 1938 and was formerly assistant sales manager, sales manager and general manager. Since the company's merger with Van Norman in January 1956, Pierce has been vice-president in charges of sales, engineering, research and development and advertising. He has not announced his future plans.

Ernest M. Boys, formerly associated with Green River Mills at Tuxedo, N. C., has taken up his duties as general manager of four textile mills in the Robert L. Stowe group at Belmont. Boys will be the general manager of the Chronicle Mill, National Yarn Mill, Stowe Spinning Co. and Imperial Yarn Mill. He has been connected with textile mills for the past 28 years.

John S. Conway has been named product manager of drapery fabrics for Judson Mills, Greenville, S. C., a division of Cotwool

Mfg. Co. Before his promotion he was planning head of synthetics. He was with Dan River Mills from 1946 until 1952 when he joined Judson. . . . W. H. Dean Jr., has been named product manager of synthetic fabrics. Dean has been with Judson since 1952. Before his promotion he was general overseer in the quilting department. . . . M. E. Wright has been named product manager of cotton fabrics. He was previously serving as head of the cotton production control. He has been with Judson since 1952. Wright worked with Deering Milliken and Dan River before joining Judson.

Raymond A. All has been named to the newly-created post of director of marketing for the textile division of the U. S. Rubber Co. All will have over-all responsibility for long-range planning, merchandising, sales, market development, advertising and sales promotion for the textile division which operates ten mills in five Southern states. All has been with the rubber company since 1937, three years after his graduation from Clemson College, S. C. Prior to joining U. S. Rubber at its Hogansville, Ga., mills, he was employed by the Callaway Mills in LaGrange, Ga.

John McGuire has been named manager of Airedale Worsted Mills Inc., Stony Point, N. C. McGuire was formerly general superintendent of the Shelby & Wood Yarn Mills at Salamanca, N. Y. He succeeds T. R. Redlack who has resigned.

Woodrow D. (Woody) Johnson, general sales manager of the U. S. Rubber Co.'s textile division, has resigned to go into business for himself. Johnson had been with the company for seven years and in the textile industry for 25 years. He plans to set up a non-textile business in Connecticut.

John C. Bell has been promoted from cotton buyer to vice-president in charge of purchasing at Inman (S. C.) Mills. Bell has been with the company for 30 years. His new duties will include the Riverdale plant at Enoree, S. C.

Rayford Perdue has been named superintendent of the Cherokee Falls (S. C.) Mill of B. I. Cotton Mills, member of Burlington Industries. Perdue has worked with the company's mills at Henrietta, N. C., and at Batesburg and Lexington, S. C. . . .

O. D. Boyd, vice-president and general manager of the B. I. Cotton Mills Division is moving to Greenville, S. C. . . . Frank H. West has been named manager of the Henrietta, Caroleen and Asheville plants of the group.

John H. Matthews, executive vice-president of Raybestos-Manhattan Inc., has retired from full general management responsibilities of the Manhattan Rubber Division, Passaic, N. J. He will continue as a director of the company and as a consultant. Matthews has served Manhattan for 45 years and was instrumental in building and putting in operation a number of new plants.



Joseph N. Kuzmick



C. P. Schneider

. . . Joseph N. Kuzmick has been named divisional manager of the Manhattan Division. Kuzmick was previously co-ordinator of corporation research and development activities. He has been with Manhattan for 40 years. . . . Clarence P. Schneider has been elevated to the post of assistant to the divisional manager. Schneider has been general manager of the Wabash Division at Crawfordsville, Ind. to which he was appointed factory manager when this new plant was built in 1951.



Jesse I. Long

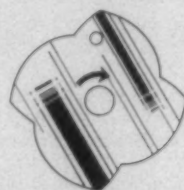
Jesse I. Long has been named shuttle specialty salesman for the Southern division of Steel Heddle Mfg. Co. of Philadelphia, Pa. The Southern division serves mills in Georgia, North Carolina and South Carolina. Long has been with the shuttles division of the company for 27 years. For several years he has been representing it as a service man. . . . Don Tate has been promoted to reed specialty salesman for the Southern division. Tate has served with the

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## PERSONAL NEWS

company in various capacities for the past 20 years. During the past several years he



Don Tate



Willard A. Goodwin

was reed service man. . . . Willard A. Goodwin has been transferred from the New England territory to the Southern division sales force and assigned to South Carolina. Goodwin has been with Steel Heddle for the past two years. Previously he was with the Deering Milliken Corp.

Herbert B. Rust has been named advertising and public relations manager for Stowe-Woodward Inc., Newton, Mass., rubber manufacturer. Before joining Stowe-Woodward, Rust was associated with the advertising department of the Atlas Plywood Corp., as direct advertising manager. He was responsible for the advertising and marketing program of its distributor warehouse organizations throughout the country.

Walter Lill has been named sales coordinator of the Fleissner Dryer Section of the Saco-Lowell Textile Machinery Division. These dryers, which previously were made in Germany, will now be manufactured in the U. S. at the Saco-Lowell gear and machine division plant at Sanford, N. C. Lill joined Saco-Lowell in July 1958 as a sales engineer in the Saco-Lowell international division with headquarters at Boston, Mass. He previously had been sales engineer and technical adviser to Fleissner's American representatives. Lill will be located in Greenville, S. C.

Arthur M. Spiro has joined Waumbec Mills, Manchester, N. H., as a vice-president. Spiro will be located in the New York office of Waumbec Mills and will be responsible for purchasing and sales of yarn, as well as co-ordination of fabric production with sales. Spiro recently resigned from Industrial Rayon Corp., after five years as assistant to the vice-president in charge of merchandising. For seven years prior to that he was with Robbins Mills Inc., as assistant vice-president in charge of purchasing, planning and other merchandising activities.

Arthur L. Harris, president of Mead-Atlanta Paper Co., has been elected a Southern area director for the Folding Paper Box Association of America. Harris will serve on the 1959-60 board.

George McDougall has been named chief engineer of the Greenville, S. C., division of the Daniel Construction Co. McDougall has been associated with Daniel Construction Co. since 1957 as a project manager. In this capacity he has supervised the construction of many of the largest projects

constructed by his company, including a number of textile plants.

Robert B. Mitchell, vice-president and a senior staff member of Barnes Textile Associates Inc., a division of Scovell, Wellington & Co., Boston, Mass., has resigned to accept the responsibility for textile engineering activities with the Pendleton Woolen Mills, Portland, Ore. His activities will embrace industrial engineering work in the company's mills located in Pendleton, Ore., and Washougal, Wash.

Robert Cook Edwards, acting president of Clemson College since June, has been named president of the college. Edwards joined Clemson in 1956 as vice-president for development after serving for ten years as general manager and treasurer of Abbeville (S. C.) Mills Corp. A 1933 graduate of Clemson, he began his career with Duncanson Mills, J. P. Stevens & Co., in Greenville. He also worked for Charles B. Thomas Co., Aberfoyle Inc. and Deering Milliken & Co.



Talcott M. Banks

Livermore's board, a post he has held since 1953.

Ralph A. Rusca, research engineer at the U. S. Department of Agriculture's Southern Utilization Research & Development Division at New Orleans will attend the Textile Institute's annual meeting at Scarborough, England, May 12-15. He will attend the meeting to gain new data on textile developments to aid the U.S.D.A.'s textile research program.

Judson W. Arnold has been appointed to the newly-created post of director of development for Shawinigan Resins Corp. Arnold has been serving as general manager of Shawinigan's Gelvatex Division, Anaheim, Calif. As director of development, he will be located at the firm's main plant and executive offices in Springfield, Mass.

James O. Hodges has been appointed a member of the Southern sales staff of American Paper Tube Co. Hodges, who has been for a long time associated with the company, will work out of Charlotte, N. C.

Nelson Getchell has been appointed manager of the technical section, utilization research division, The National Cotton Council in Washington. His appointment fills the position vacated last year by George S. Buck Jr., who was appointed assistant to the council's executive vice-president for research. Getchell received a bachelor's degree in textile chemistry from Lowell Technological Institute in 1938, and held positions in various segments of the textile industry before joining the council in 1951.

Joseph Williams of the market research section, has been transferred from the Memphis, Tenn., office to the Washington office where he will serve as special field representative of this section.

E. A. LaRoche, associate professor of textiles and industrial management at Clemson College, has been awarded a National Science Foundation fellowship to the 1959 Southern Regional Graduate Summer Session in Statistics at North Carolina State College, Raleigh, June 8 to July 17. Prof. LaRoche, a 1942 Clemson graduate in textile engineering, joined the Clemson faculty in March 1948. He earned his master of science degree in textile engineering at Georgia Tech in 1951.

Edgar H. Bleckwell has been promoted to assistant general director of Du Pont's textile fibers sales divisions, succeeding Joseph A. Dallas, who has been named director of sales of the explosives department. Bleckwell, who has been director of the Nylon-Cordura manufacturing division for the past three years, will be succeeded by Emil O. Johnson, who has been a production manager in that division since 1956. Succeeding Johnson will be Hayden M. Pickering Jr., assistant manager of the Seaford, Del., nylon plant. The department also appointed Edward M. Cooper Jr., manager of the Chattanooga, Tenn., nylon plant, as a production manager in the Nylon-Cordura manufacturing division to fill the vacancy resulting from the transfer of Arthur M. Geil to the International Department as managing director designate of Du Pont de Nemours (Nederland) N. V.

Robert D. Clark has been named market manager for the textile industry for Brown Instruments division of Minneapolis-Honeywell Regulator Co. Clarke joined the Mobile, Ala., office of Honeywell as a sales engineer in 1951. He had been district manager of the automatic control firm's Columbia, S. C., office since 1951.



Harold W. Ball

Harold W. Ball of Westfield, Mass., has joined Curtis & Marble Machine Co., Worcester, Mass., textile machinery manufacturer, as product engineer. The new post encompasses co-ordinating improvements and modernization of existing machinery, as well as analyzing new product developments for diversification. For the past 14 years, Ball has been chief engineer for the Foster Machine Co. of Westfield, Mass.

Robert D. Williams has been appointed manager of product development for the fibers division of Celanese Corp. of America, New York City. He will direct the development of new end products and new applications for Celanese fibers and Teron, the polyester fiber to be produced by Fiber Industries Inc., the company jointly owned by Celanese and Imperial Chemical Industries Ltd. of Great Britain. Since joining Celanese in 1955 as a senior development chemist, Dr. Williams has been as-

manager.

Fred Harvell, formerly with H. F. Livermore Corp. and J. P. Stevens Research, has joined Schmidt Mfg. Co., Greenville, S. C. as a technical sales representative. Harvell will make his headquarters in Atlanta, Ga., and will call on mills in the Georgia and Alabama area. Schmidt manufactures and distributes loom and industrial equipment.

James D. Barbee, executive vice-president of Cramerton (N. C.) Mills, has been promoted to president of the organization. Cramerton Mills is a member of Burlington Industries, Greensboro, N. C. Barbee has been with Burlington since 1946. . . .



James D. Barbee



J. R. Meikle

J. Roderick Mickle has been named a vice-president. Mickle has been manufacturing manager since 1958. Prior to joining Burlington, he was a vice-president and manager of Rosemary Mfg. Co., Roanoke Rapids, N. C.

H. K. Hallett, a member of the board of directors of the Kendall Co., Boston, Mass., embarked recently on a visit to textile mills and textile machinery manufacturers in Europe. Hallett, a retired vice-president of the Kendall Co., is a former president of the American Cotton Manufacturers Institute.

Duncan Carmichael has accepted the new post of automotive development co-ordinator for the Abbeville (S. C.) Mills Corp. Carmichael was formerly in charge of development in the dyeing department. He joined Abbeville in 1954 as a laboratory trainee after graduating from North Carolina State College. Abbeville produces long staple blended yarn fabrics including wool.

M. Boylan Carr and T. Redmond Thayer have been appointed marketing managers for two major product areas of American Enka Corp., Enka, N. C. Carr is marketing manager for textile rayon and nylon yarns and fibers. Thayer is rayon staple and in-

Industries. He was previously the plants.

Alva Yates Jr. has been named superintendent of the Catherine plant of Avondale Mills, Sylacauga, Ala., succeeding W. A. Edwards who was transferred to Avondale's plant in Alexander City, Ala.

Roy E. Davis has been named overseer of warp preparation at the Monarch plant of Monarch Mills, Union, S. C. Davis was formerly assistant overseer of spooling and warping. He is a 1950 graduate of Clemson College. . . . William J. Carnell has been named assistant overseer in the weaving department. Carnell was previously assigned to special projects as a college trainee. He is a 1954 graduate of Clemson College.

J. Robert Bonnar has been named director of marketing for the dyestuffs and chemical division of General Aniline & Film Corp. In his new position, he will have direct supervision of all sales and related marketing functions of the division. Prior to this appointment, Bonnar was sales manager of dyestuffs, a position he had occupied since 1953. He joined General Dyestuff Corp. in 1935 as manager of the technical department.

Charles Mount Jr. has been named personnel manager and director of training for the Lockhart (S. C.) plant of Monarch Mills.

Charles A. Cannon, president of Cannon Mills, Kannapolis, N. C., has been named chairman of the board, a new post. William C. Cannon has been named assistant chairman of the board. He continues as vice-president. Don H. Holt, a vice-president for a number of years, has been named execu-

tive vice-president. Two new vice-presidents have been named. They are: George A. Gantt Jr., who has served as assistant treasurer for a number of years, and Fred L. Wilson, general manager. Five new assistant vice-presidents have been appointed. They are: Hester Warren, Elmer Spence, Joseph C. Ridenhour, Baradon Payne and Clifford Miller.

Henry E. Lollis has joined Proximity Plant Works of Cone Mills Corp., Greensboro, N. C., as plant engineer. Lollis holds a mechanical engineering degree from Clemson College and is a member of the American Society of Mechanical Engineers.

## OBITUARIES

William Young Ball, 59, superintendent of the Tolar, Hart & Holt Mills of Fayetteville, N. C., died last month. Mr. Ball had been with the mill for three years. Formerly he was associated with Burlington Mills in Cramerton for 12 years. He is survived by his widow and two sons.

E. H. Barnett, 54, for the past 20 years second hand in the cloth room at W. A. Handley Mfg. Co., Roanoke, Ala., died last month after a heart attack.

John E. Bassill, 62, retiring president of the American Enka Corp., Enka, N. C., died April 17. Mr. Bassill joined the company in 1949 and was named president in 1950. Previously he had served as president of Tubize Artificial Silk Co., North American Rayon Corp., and American Bemberg Corp. He is survived by his widow and a daughter.

Charles F. Butterworth, 91, former officer of the Draper Corp., Hopedale, Mass., died at his home in Hopedale early this month. Mr. Butterworth retired from Draper in 1951 after having been with the company since 1902. He was named board chairman in 1940. Survivors include two daughters.

William F. Hill, for the past 2½ years Shawinigan Resins Corp.'s Atlanta district manager, was killed in an auto accident last month. Mr. Hill is survived by his widow and three children.

Guy Parmenter, 70, retired textile executive, died recently. Mr. Parmenter retired in 1956 from his post as superintendent of the Goodyear Tire & Rubber Co.'s Clear-

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water Plant No. 3 at Atco, Ga. He had held executive positions with a number of New England Mills before being chosen by Goodyear to open its tire cord mills in Georgia. Mr. Parmenter was active in the affairs of the Cotton Manufacturers of Georgia. Surviving are his widow, two sons and a brother.

**C. A. Potter**, 54, vice-president and general manager of B. F. Perkins & Son Inc., Holyoke, Mass., died March 30 in Northampton, Mass. Mr. Potter started with the company in 1926 as a draftsman in the engineering department, resigning in 1931 when he was chief engineer. He rejoined the company in 1953 as general manager.

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**KANNAPOLIS, N. C.**—The Federal Trade Commission has ordered Cannon Mills here to stop misrepresenting the fiber content of its blankets and other merchandise. Also the company must clearly reveal in the future when its products contain acetate. The charges of misrepresentation came in connection with mailers published by the company advertising its X-ran blankets and in connection with the label used on the blankets. The required information relating to the composition of the blanket was on the label but was not conspicuous enough, according to the commission. The company also failed to state that the binding of the blanket was acetate, not silk, the commission said.

**COLUMBIANA, MISS.**—Work has begun on a \$250,000 expansion and modernization program at Valley Mills here. An additional 30,000 feet of floor space is being added to the company's facility here and a general warehouse is being modernized for cotton storage. When the expansion is completed the company expects to go off its present seven-day week onto a five-day week. Another \$250,000 expansion program is being started at Starkville (Miss.) Mills, recently acquired by Valley.

**DANVILLE, VA.**—The union contract at Dan River Mills will be extended for another year. The contract includes the 7.5 cents an hour increase granted recently by the company, otherwise it is the usual contract. It will remain in force until May 31, 1960.

**CLOVER, S. C.**—The American Thread Co. plant here and the union which represents some 750 employees have reached an agreement on a wage increase averaging eight cents an hour. The increase represents differentials which across the board amount to an average of eight cents an hour. It is retroactive to March 2. Supervisory personnel are not included.

**SYLACAUGA, ALA.**—Avondale Mills will hold its annual Spring inspection tour on April 24, 27, 28 and 29. The first inspection on the 24th will be at the Stevenson plant. On April 27, the tour will cover the Sylacauga and Sycamore plants. The tour on April 28 will cover the LaFayette and

Alexander City mills, and the tour on the 29th will cover the Pell City and Birmingham mills.

**BELMONT, N. C.**—Imperial Yarn Mills here has been purchased by undisclosed parties. The mill, formerly owned by a stock company, will continue to operate under its new owners. The purchasers are reported to be preparing plans for the improvement of both the mill and the surrounding village. The mill, which makes fine cotton yarn, employs some 300 persons.

**GADSDEN, ALA.**—Cone Mills has decided to discontinue and abandon its struck plant here. The mill has been closed by a strike since March 16. The strike has idled 2,100 persons. The company informed the Textile Workers Union of America Local 576 that the board of directors had voted to shut down the Dwight Division here. The union was seeking a \$1.25 minimum hourly wage. The union has agreed to work up the stock in process in order to abandon the plant in an orderly way. Employees have ratified this agreement.

**FIELDALE, VA.**—A 5% per hour increase for hourly and piece work employees of Fieldcrest Mills here was granted by the company. The increase averages 7½ cents an hour. All workers will receive an hourly minimum of \$1.25.

**LEWISTON, ME.**—Bates Mfg. Co. here has reported a net income for 1958 of \$1,113,187 compared with a net loss of \$1,018,720 for 1957. Sales for 1958 totalled \$37,802,865 against \$51,396,817 previously. The 1958 income included \$474,513 of net gains from the sales assets of some of the discontinued units. The 1957 loss was after giving effect to a \$1,950,782 markdown of physical properties of closed units and \$1 million estimated recovery of Federal income taxes on loss carry-back.

**GREENVILLE, S. C.**—Woodside Mills here has reported net earnings of \$1,012,000 on sales of \$42,350,000 for 1958 as compared with earnings of \$1,110,000 on sales of about \$40,000,000 in 1957. Earnings in 1958 were \$2.57 a share as compared with \$2.82 in 1957. Robert S. Small, president, said he was optimistic about the

company's prospects for the second half of this year. He said that the firm's forward orders on both cottons and synthetics for the first two months of this year were twice those of the comparable period in 1958.

**CENTRAL, S. C.**—The air-conditioning system at the Cannon Mills plant No. 12 here will be extended to include the spinning departments. The present air-conditioning system includes only the weave room. Work on the project has already begun. The company is also installing looms of a more advanced style in the weave room. The plant employs 400 persons.

**CHARLOTTESVILLE, VA.**—Charlottesville Woolen Mills here has decided to either sell or go out of business. The decision was reached after a request for a loan of \$250,000 in new working capital was turned down by the Small Business Administration.

**BALTIMORE, MD.**—An offer to purchase Mt. Vernon Mills here has been made by Wilson Bros., Chicago, Ill., a holding company. The offer was on the basis of \$27.50 a share cash or the equivalent amount of stock in the holding company. It calls for the acquisition of a minimum of 400,000 shares, although it is extended to all the outstanding stocks of Mt. Vernon totalling 749,001 shares.

**CONCORD, N. C.**—Kerr Bleaching & Finishing Works has let a contract for the construction of a 5,000-square-foot warehouse to provide shipping and storage space. The cost of the new addition is said to be in excess of \$200,000. Completion of the new unit is expected by August 1.

**SPRAY, N. C.**—The Federal Trade Commission has charged Fieldcrest Mills here, trading as Karastan Rug Mills, with overstating the size of the rugs it manufactures. In almost all instances, the F.T.C.'s complaint alleges, the approximate size stated on labels is larger than the actual size of the rug. These size representations are deceptive because their cumulative effect over the years has been to mislead the public into believing Fieldcrest's rugs either are larger or smaller than claimed, when they are almost invariably smaller, the complaint



says. This deception, it concludes, has diverted trade unfairly from competing rug manufacturers and violates the F.T.C. Act. Karastan is an unincorporated subdivision of Fieldcrest and has its office at 295 Fifth Avenue, New York City. Fieldcrest is granted 30 days in which to file answer to the complaint.

**LONG SHOALS, N. C.**—Some 197 workers were left jobless by a recent fire which totally destroyed the main building of the Long Shoals Mfg. Co. here. The blaze apparently started at an air compressor located in the heart of the mill. D. H. Mauney, vice-president, said it would take \$2½ to \$3 million to replace what was lost. None of the employees were injured.

**GREENSBORO, N. C.**—W. J. Carter, executive vice-president, has announced that J. P. Stevens & Co. Inc. is negotiating with Green River Mills Inc. for the purchase of its spinning plant at Tuxedo, N. C. In the event that the purchase is consummated certain machinery changes and improvements are planned for the plant. Since these plans are not complete at this time the opening date of the plant is uncertain, and the time required to get operations underway is not known at present. J. P. Stevens & Co. Inc. is one of the nation's largest textile organizations, operating 45 plants in the manufacture of yarns and fabrics of cotton, wool and man-made fibers. Twelve of these plants are located in North Carolina.

**ENKA, N. C.**—American Enka Corp.'s plant here has been presented a 12th-year safety award by the North Carolina Department of Labor. Commissioner Frank Crane made the presentation Friday, March 20. The award was given in recognition of 12 consecutive years of outstanding performance in prevention of on-the-job accidents by the Enka plant. The Enka plant has also qualified for a National Safety Council award based on a reduction in accident frequency rate of better than 50% for 1958 over 1957. During the 12-year period 1947-1958 the Enka plant operated a total of 82,422,552 man-hours with only 113 lost time injuries.

\$200,000 with the Roberts Co., Sanford, N. C., for its Arrow M-1 spinning frames. First introduced at the Southern Textile Exposition last October, the Arrow M-1 is an advanced cotton system frame of 25" width. The machines ordered by Shelby Cotton Mills are warp spinning frames of 4" gauge with 2¾" rings and 12" bobbins, and complete with motors. Delivery will be via Roberts Turnkey Erection program under which the manufacturer assumes complete responsibility for the installation, and ships machines 75% erect in its own trailer vans. Deliveries will begin in May and are expected to be completed in early June.

**NEW YORK, N. Y.**—Net income of \$1,624,051 on sales of \$254,988,222 for 1958 has been reported for M. Lowenstein & Sons here as compared with the net income of \$3,035,223 on sales of \$285,340,859 in 1957. Earnings before taxes were equal to \$1.04 a share against \$1.95 a share in 1957. The company noted in its annual report the loss divisions were eliminated and operations were consolidated to reduce costs. On the plus side the company also reported that it owes no money to the banks and that at the year's end it had \$5 million in government securities, representing excess cash. The firm's inventory of greige goods at the end of the year was \$10 million less than at the end of 1957.

**LONG ISLAND, N. C.**—The plant here of Superior Yarn Mills, with headquarters in Mt. Holly, will close October 9. The mill employs 120 persons. John Mason is manager. Superior's plant at Monbo will close by the end of 1960, the company announced. The mills are closing because of the construction of a new dam which will back water over the area in which they are located. The machinery from the two plants will be moved to an addition being constructed at the Mt. Holly plant.

**KANNAPOLIS, N. C.**—Earnings of Cannon Mills Co. here for 1958 showed a drop of about 16% from earnings for 1957. The company's consolidated annual report showed earnings of \$10,786,122 on sales of \$191,863,375 for 1958 as compared with earnings of \$12,871,915 on sales of \$194,655,671 previously. As of December 31, total current assets were listed at \$120,087,72 and current liabilities were listed at \$11,188,568.

**DANVILLE, VA.**—Stockholders of Dan River Mills have been informed by W. J. Swin, president, that the company expects higher volume of sales in 1959, and improved earnings from operations this year

as compared with 1958, but that any significant improvement would likely occur in the last half of the year. Consolidated net sales for the first three months ended April 4, 1959, are estimated at \$42,200,000, compared with \$40,631,125 in the like period a year ago. Based on preliminary calculations, consolidated net earnings for the period are expected to be reasonably close to the 27 cents per common share earned in the first quarter of 1958.

**ANNISTON, ALA.**—Production and administrative facilities of The Linen Thread Co. are being centralized at Blue Mountain, Ala., as part of a program to bring new vigor and wider scope to its operations, according to James E. Robison, president of Indian Head Mills Co., the parent company. The Linen Thread Co. is realigning its top management, strengthening its sales organization, concentrating warehouse stocks in strategic centers throughout the country and planning to inaugurate totally new merchandising concepts.

**LAUREL HILL, N. C.**—Edwin Morgan of Morgan Mills here, has announced that the greige combed broadcloth and poplin production of the Morgan Mills' Springfield Division, formerly merchandised by T. J. McKenna, is now being sold through Reeves Bros. Inc. under the direction of H. C. Hoffman, vice-president. McKenna joins Reeves in a new sales department.

**LANCASTER, S. C.**—Lower profits on higher sales have been reported for Springs Cotton Mills here. The annual report for the year ended December 27, 1958, shows net income of \$10,001,972 on sales of \$162,844,651 as compared with income of \$12,651,988 on sales of \$153,000,397 in 1957. The 1958 total includes net profit of \$439,758 on the sale of assets and the 1957 income includes non-recurring income of \$2,211,312. On December 27 current assets were listed as \$72,852,089 against \$67,852,995 previously. Liabilities were listed at \$9,638,306 against \$11,872,816 in 1957.

**NEW YORK, N. Y.**—Reeves Brothers Inc. has reported net income of \$313,186 for the third quarter as compared with earnings of \$160,555 in the same period a year ago. Net sales in the period totaled \$16.5 million, up 13.2% from the figure of \$14.5 million last year. Net sales of \$42.4 million for the first three quarters reflects a 7.3% increase over the \$39.5 million of a year ago. Net income for the nine months totaled \$432,523. This compares with \$228,112 for the same period last year. The company's fiscal year ends June 30.

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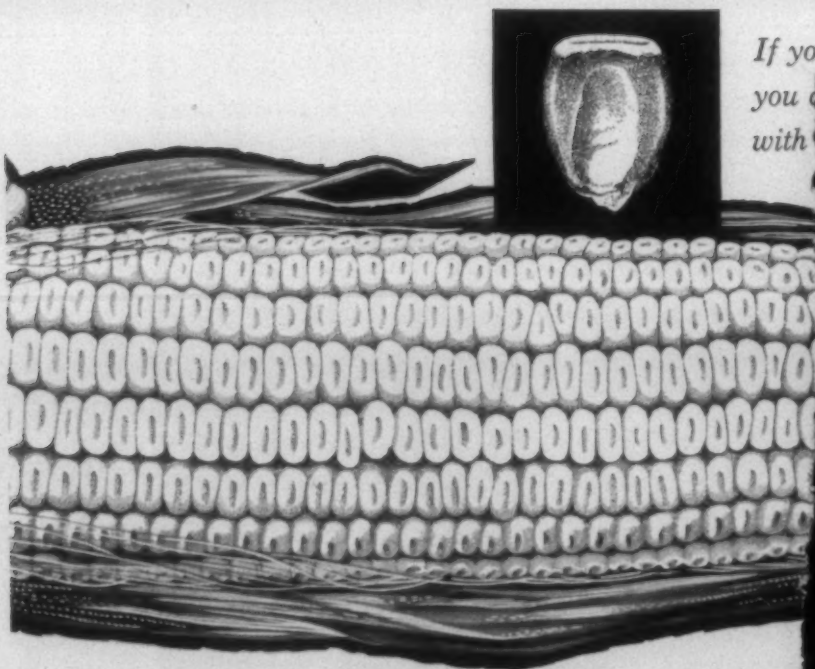
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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable

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### Clemson's New Quarterback

THE board of trustees of Clemson College is to be congratulated for its wise selection of Robert C. Edwards as the school's eighth president. And the textile industry can take pride in having had at least some small part in the rearing of a leader with the ability of Mr. Edwards. And Mr. Edwards can point with a considerable feeling of accomplishment at having succeeded to a post he was ruled ineligible for nine months ago when he was named acting president with the understanding that he was not to be considered a candidate for the permanent position of president. And Clemson alumni can smile a mile at the line-up of Edwards, Gage, Howard and IPTAY. It's sure to be a winner.

### Uphill All The Way

“THE fight to eliminate the adverse effects of governmental policy on the domestic industry has only just begun. There is still ahead a long uphill struggle. The progress made so far in no way shifts the ultimate burden of responsibility from the shoulders of the textile industry itself.”

These were the words used at the A.C.M.I. convention last month by Senator Strom Thurmond in a report in which he summed up practical ways and means of implementing the January recommendations of the Pastore Textile Subcommittee. As a member of that subcommittee, Senator Thurmond is fully aware of the urgent need for carrying through on the recommendations. As a member of Congress, he is equally familiar with the obstacles to be encountered in pushing the suggested measures on through

to adoption. He obviously knows what he's talking about, and it's up to the textile industry to be guided accordingly.

Reviewing the recommendations one by one (See Page 78), Senator Thurmond outlined the course each must take in its move toward adoption. Of the ten, the ones calling for (1) establishment of quotas by specific categories; (2) the elimination of two-price cotton; and (3) more realistic depreciation rates on textile machinery, hold out the most hope. By the same token, they will be the most difficult to implement.

There has been, for example, no encouragement whatever from the Administration on the establishment of quotas—not by specific categories or any other way. To the contrary, at this time the Japanese are indicating that they may abolish the voluntary quotas under which they have been operating. The Japanese textile industry has openly warned that exports to the U. S. will not be held under last year's curbs, at least not voluntarily, despite the objections of the U. S. textile industry. And thus far our State Department has drawn its customary conclusion in matters of this sort—to wit, we'd better let the Japanese have their way or they'll allow themselves to be courted by the Soviet.

Senator Thurmond points out that our best bet for getting a quota system in operation is through administrative channels, not legislative action. He believes that quotas may can be established through action under Section 22 of the Agriculture Adjustment Act or as a result of action instigated by the Secretary of Commerce and the Textile Interagency Committee. Failing in these approaches, the industry would then be forced to renew its attempts for legislative action. It is obvious that these avenues are loaded with roadblocks, and that considerable and consistent co-operative effort will be required of the textile industry if they are to be cleared.

What are the chances for elimination of two-price cotton?



Poor at best, according to Senator Thurmond. Although he thinks chances are improving, he warns that legislative action in this regard will be a long time coming. In the meantime, about the most to be fought for is the adjustment of tariffs on imported cotton products. There again it lies with the Administration to impose these measures.

Virtually the same course must be followed in implementing the recommendation calling for more realistic depreciation rates. These can be revised only by administrative action of the Internal Revenue Service. A meeting of the textile subcommittee this month with representatives of the Treasury Department may indicate the industry's chances for relief in this vein.

The point Senator Thurmond brought to the A.C.M.I. convention was that the U. S. textile industry stands to be sadly disappointed if it leaves to the textile subcommittee the job of wrestling relief from these various agencies. The subcommittee can't do the job by itself. And most of the work lies ahead.

## The Upturn Continues

**A**RNOLD BERNHARD & CO., investment advisers, reports in its April 20 issue of "The Value Line Investment Survey" that output in key sectors of the textile industry was 10-20% greater in the first quarter than it was a year ago.

Rising employment and expanding consumer outlays for nondurable goods suggest that retail sales of textile products will continue to advance over the balance of the year. With mill inventories reduced to manageable levels, leading mills are in good position to benefit from this upturn in demand. The profit picture is similarly promising although price increases still haven't been made to offset wage rate increases put into effect since the first of the year.

The survey points out that orders placed in the past three months assure that production and shipment rates will be maintained at a favorable level in the current quarter. At the same time, the prospective decrease in the price of the

1959 cotton crop is tending to restrict the placement of orders for delivery in the third and fourth quarters. The lower prices in prospect for cotton next Fall, the survey notes, will provide a test of the textile industry's ability to pursue more profitable pricing policies.

The survey calls attention to the fact that while textile shares for the most part are currently overpriced, even in view of improved prospects for 1959, they still offer good potentiality three to five years hence. This prediction is based largely on the assumption that new product development, better merchandising methods, and a closer gearing of output to sales will make possible higher volume and wider profit margins in the 1962-64 period. The 15 stocks reviewed by the survey are ranked above average for their capital gains potentiality through that period.

## Make The Most Of It

**A** group of great potential usefulness to textile mills in North and South Carolina has been formed in Charlotte with the organizing of a local chapter of the American Materials Handling Society. In spite of its location in one of the textile manufacturing centers of the South, the new chapter has not yet had the type of representation it should have from the textile industry. We trust that this absence of industry representation is due to some cause other than lack of interest on the part of textile men.

It is through the free exchange of information that real progress comes. The purpose of the A.M.H.S. is to foster this free exchange of information for the benefit of its members. Many mills have recently been beset with a multiplicity of problems connected with materials handling. The newly-organized group should prove to be of invaluable assistance to those concerned with these problems.

We encourage all mill men whose responsibilities include materials handling to join with this new chapter and utilize its full potentiality. The next meeting will be held on May 1 at the Mecklenburg Hotel in Charlotte with Frank G. LaTour, national president of the A.M.H.S., as guest speaker. The social hour will begin at 6:30 with dinner at 7:30 p.m. followed by Mr. LaTour's address.

## TEXTILE INDUSTRY SCHEDULE

— 1959 —

- Apr. 28-29 (Tu-W)—Technical Advisory Committee meeting and Board of Trustee Meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.
- Apr. 29-30 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Fontana Village, N. C.
- May 2 (Sa)—Spring general meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES** (Slashing & Weaving), Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.
- May 12-14 (Tu-Th)—**COTTON RESEARCH CLINIC** (sponsored by the National Cotton Council), The Grove Park Inn, Asheville, N. C.
- May 14-16 (Th-Sa)—Annual outing, **CAROLINA YARN ASSOCIATION**, Pinehurst, N. C.
- May 18-23 (M-Sa)—**NATIONAL COTTON WEEK**, sponsored by the National Cotton Council of America.
- May 28-30 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Sea Island, Ga.
- June 18-20 (Th-Sa)—51st Annual Convention, **SOUTHERN TEXTILE ASSOCIATION**, The Ocean Forest Hotel, Myrtle Beach, S. C.
- Sept. 10-11 (Th-F)—Fall meeting, **THE FIBER SOCIETY**, Textile Research Institute, Princeton, N. J.
- Sept. 17-18 (F-Sa)—Annual outing, **CHATTANOOGA YARN ASSOCIATION**, The Read House, Chattanooga, Tenn.

- Oct. 1-2 (Th-F)—Fall meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, The Grove Park Inn, Asheville, N. C.
- Oct. 3 (Sa)—Fall meeting, **TEXTILE OPERATING EXECUTIVES OF GEORGIA** (Slashing & Weaving), Hightower Textile Building, Georgia Tech, Atlanta.
- Oct. 7 (W)—**CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Mayflower Hotel, Washington, D. C.
- Oct. 8-10 (Th-Sa)—Annual national convention, **A.A.T.C.C.**, Sheraton Park and Shoreham Hotels, Washington, D. C.
- Oct. 10 (Sa)—Fall general meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES** (Carding and Spinning), Langdon Hall, Alabama Polytechnic Institute, Auburn, Ala.
- Oct. 17 (Sa)—Annual meeting, **(GEORGIA) TEXTILE EDUCATION FOUNDATION**, A. French Textile School, Georgia Tech, Atlanta.

— 1960 —

- Apr. 7-9 (Th-Sa)—Annual meeting, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Americana Hotel, Bal Harbour, Fla.
- June 23-25 (Th-Sa)—52nd annual convention, **SOUTHERN TEXTILE ASSOCIATION**, The Grove Park Inn, Asheville, N. C.
- Oct. 3-7 (M-F)—The 21st **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

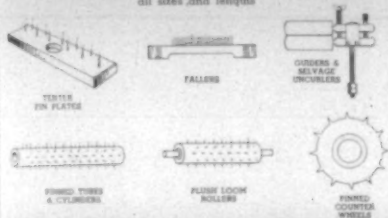
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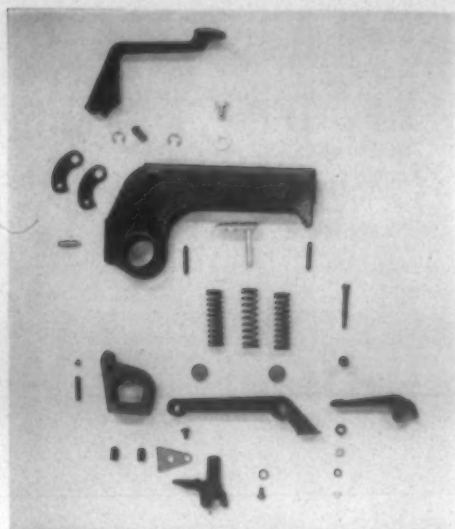
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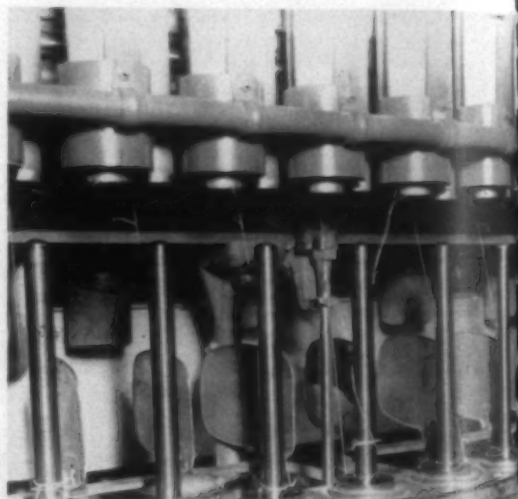
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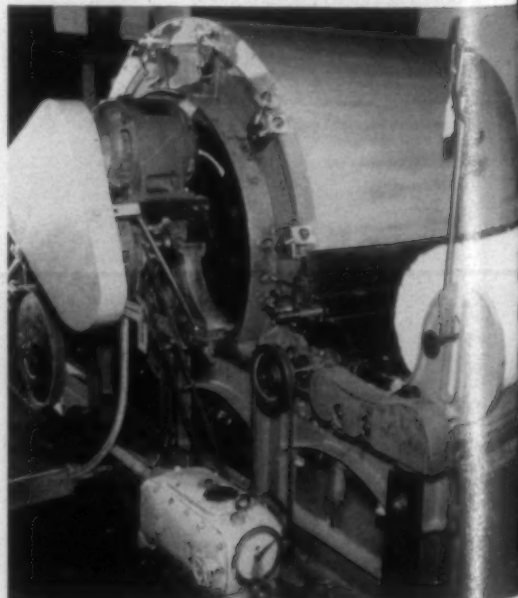
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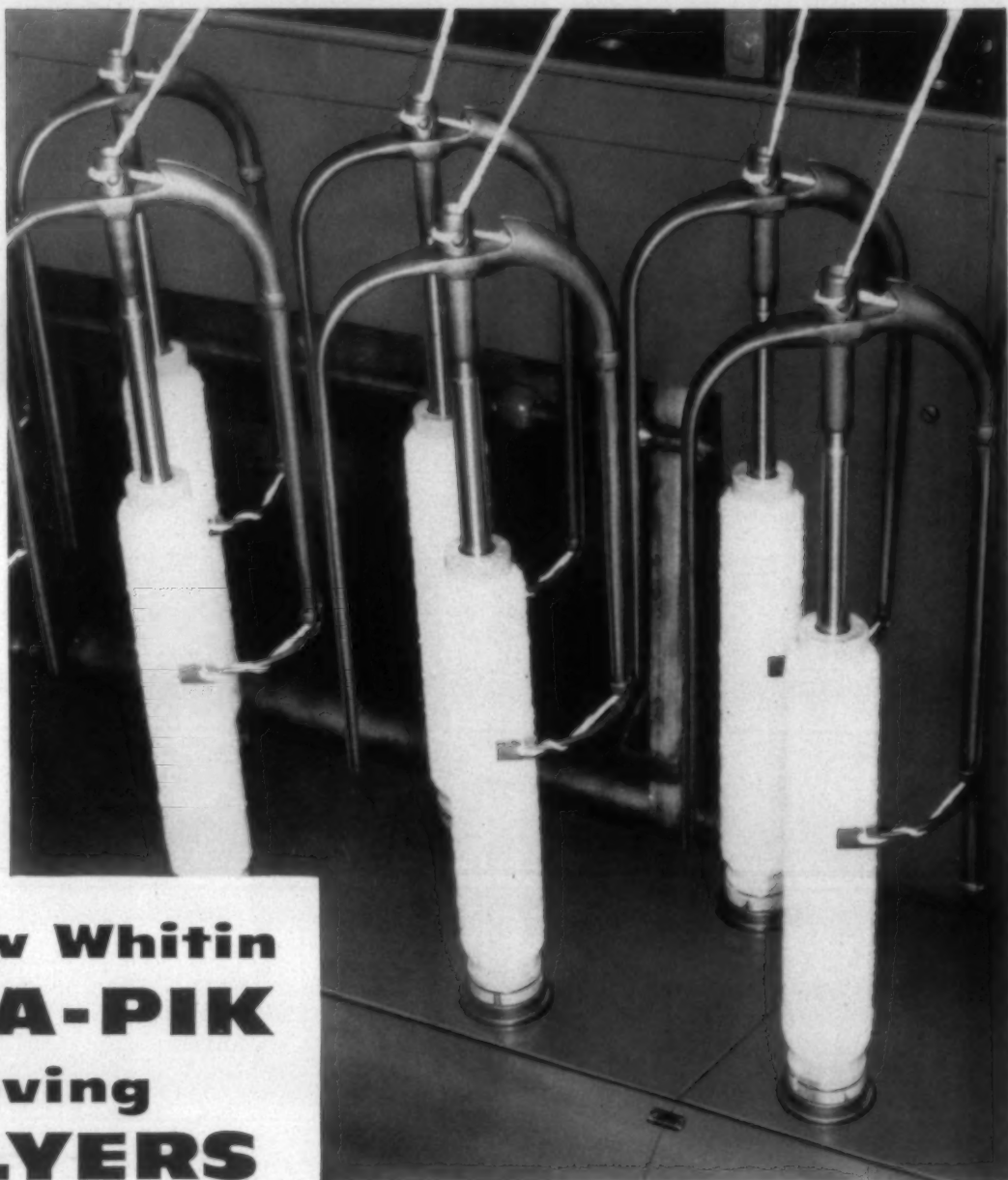


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FLYERS**

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As a result of new advances in manufacturing and finishing, New Whitin NEVA-PIK flyers repel lint so effectively that picking problems on flyers are virtually eliminated.

It's hard to believe, but during break in, picking is required only once or twice per week, while after the break-in period, picking cycles are greatly extended.

**APPLICABLE TO YOUR PRESENT FLYERS**

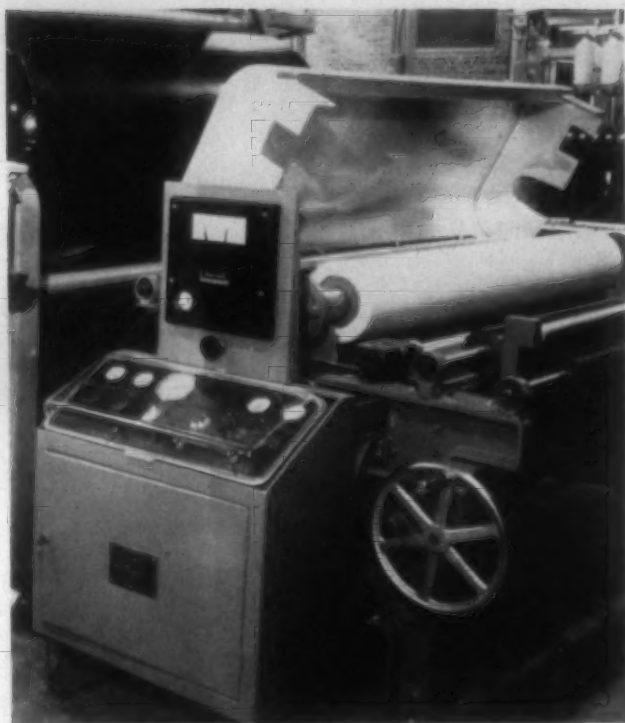
Flyers now in use can be easily reconditioned by Whitin to provide them with this new lint-repellent surface.

NEVA-PIK flyers are a worthwhile investment for reducing direct roving costs and increasing roving frame efficiency.

*Write now for further information.*

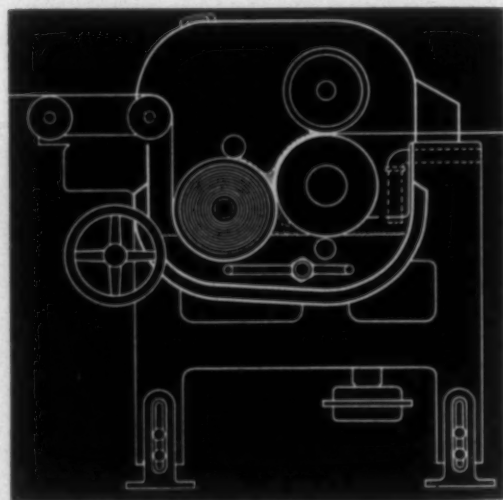
**WHITIN MACHINE WORKS**  
WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



GRIFFIN SIZE APPLICATOR in position with multi-cylinder dryer. Patents No. 2,698,983; No. 2,698,985; No. 2,763,912; No. 2,794,236 and others pending.

# The IMPROVED **GRIFFIN** SIZE APPLICATOR INCREASES WEAVING PRODUCTION



## CONTROLLED SIZING AT ITS BEST — with a TRIED and PROVEN APPLICATOR

CONTROLLED SIZING, at its finest, permits the sheet of yarn from the creel to pass through the GRIFFIN SIZE APPLICATOR in exactly the same formation as it enters the applicator. Yarn is carried by squeeze rollers through the size, rather than being pulled over them—no stretching in the wet state. The only tension on the yarn is in the dry state. Squeeze roll pressures are adjustable at all speeds and for all styles.

You can NOW have the nearest perfect weaving warp through GRIFFIN'S new, exclusive IMMERSION-SQUEEZE ROLL SIZING with . . .

- positive driven immersion roll.
- squeeze roll pressures automatically variable with slasher speed.
- size applied under relaxed tension.
- all ends held parallel while passing through size.

This machine is designed especially for high speed slashing with all types of dryers—also operates efficiently at slower speeds. The aluminum or stainless steel cover is counter-balanced for fingertip control and easy accessibility to interior of size box. Standard sizes have 60" and 78" roll faces. Other sizes are available as special units.

Why not talk it over with your GRIFFIN representative—he is a CONTROLLED SIZING specialist—and get more complete information. Write or even call us for further information and literature.

Exclusive LICENSEES

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